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Advanced Management

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Scientific Management Looks to the Future

IN THIS ISSUE

- *The 1950 Management Forecast*
- *The Economic Outlook for 1950*
- *Making Size Effective*
- *How Profits Change with Prices and Volumes*
- *Controlling Costs*
- *New Concept of "A Fair Day's Work"*
- *Overcoming Resistance to Changes*

VOL. XV NO. 1

JANUARY 1950

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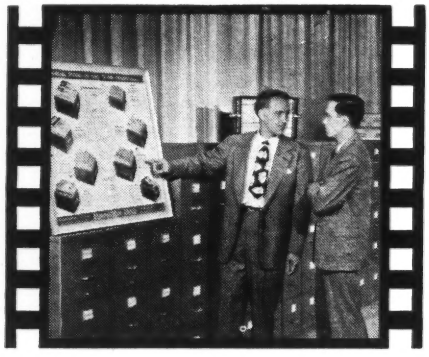

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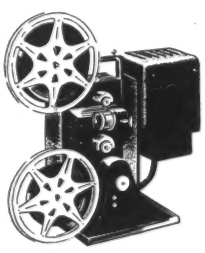

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ROBERT B. ROSS, Editor

Advanced Management

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Leadership and Values

THIS YEAR which lies ahead marks the turn into the last half of the century. From what I have seen and heard during the course of my journeyings among the Chapters and members of this Society since last July, I have come to believe that this year may also mark the beginning of a rebirth of freedom and a return to values which have contributed to the forward movement of our Nation and our people.

All through history, the eras of progress of man and civilization have been marked by faith in God, in country, in fellowman. Today's mass production era, with its increased standard of living for us all, has been marked by too great a departure from the moral and spiritual values in which we all still have a strong basic belief. The free money of the late twenties; the depression of the early thirties; the prewar years and the years of the last war with the prosperity which has followed have been characterized by a psychology of forgetting.

Too many of today's pleasures offer too little of lasting value. We have become so entertainment conscious and so interested in getting something for nothing that our work, which once was one of our principle interests, is now in far too many cases limited to our interest in making a living. It may be said that while we once lived to work we now, in too many cases, work to live. Neither of these concepts are fully acceptable to me. We all need balance in our lives, in our activities, and in our interests if we are to be healthy and normal and make our contribution to the society of which we are a part.

Some place in between there is a happy medium. The task of focusing attention on this happy medium is the principal job with which management is faced today. This is the crux of our human relations problem. Sound human relations implies an understanding of the functioning of our American economic system and the concepts on which it is based. Effective human relations must consider the basic motivations and desires which are inherent in us all, and this involves a recognition of the basic social and economic desires of each individual.

A few weeks ago I attended a meeting of the New York Chapter and heard Mr. Howard M. Chase, of the General Foods Corporation, present a challenge to all thinking management men. He said something like this: We are living in a supercharged, emotional age. We must therefore deal with emotional attitudes. As business leaders we must align ourselves with the great progressive forces of history. We must continue to find more and better ways to produce more goods and more satisfaction for more people. We must remember that periods of freedom in the past have been measured in years—serfdom in centuries. Let the cowards cling to collectivism. Let us have the courage to blaze the trail through effectiveness in our operations and continue to provide the greatest good for the greatest number the American way. In the words of Alfred North Whitehead, "We must produce a great age or for a thousand years our civilization will sink into a mere welter of minor excitements."

This requires management leadership in the true sense of the word. Full effectiveness in our economic, social, educational, and institutional relationships depends on dynamic leadership which derives its power and strength from the inspiration of moral and spiritual values.

DILLARD E. BIRD

The 1950 Management Forecast

By Walter D. Fuller — President, Curtis Publishing Co.
Joseph H. McConnell — President, National Broadcasting Co.
Neil H. McElroy — President, Procter & Gamble Co.
William L. McGrath — President, The Williamson Heater Co.
Dr. Harold G. Moulton — President, The Brookings Institution
Marcus Nadler — Professor of Finance, New York University
Gwilym A. Price — President, Westinghouse Electric Corp.
Charles F. Roos — President, The Econometric Institute
Charles Sawyer — Secretary of Commerce
C. R. Smith — President, American Airlines
Herman W. Steinkraus — President, Bridgeport Brass Co.
Leroy A. Wilson — President, American Telephone & Telegraph Co.
C. E. Wilson — President, General Motors Corp.
Robert R. Young — Chairman of the Board, C. & O. Railway Co.

Walter Fuller
President, Curtis Publishing Co.

The general economy of this country at the close of 1949 is on a seesaw. If business is going to turn upward, it will need power for the climb and that power is selling and advertising. We all know what will happen if it turns downward — there will be unemployment, inventories will mount, and that will mean less sales, still more unemployment, closing factories and stores and all the rest of the dismal downward spiral.

In a recent address, Dr. Harold G. Moulton, president of the Brookings Institution, called attention to the highly sensitive character of our tax system by demonstrating that even a moderate recession, such as a 20 percent decline, would involve a drop in tax receipts of something like 16 or 18 billions of dollars. If you regard this figure of 20 percent as a larger variation than we are likely to face, cut it in half and the resulting tax loss could still easily throw us into a dangerous effort to recover by increasing taxes. This, in turn, could result in a sharp reduction in our selling expenditures and a weakening of our whole economic structure. It has been demonstrated many times that our economic health bears a very direct relationship to our national sales effort.

The trend of events indicates that if we are smart and stimulate sales volume instead of depressing it we will probably have continuing prosperity in America. As a matter of fact it is possible that we are facing potentially one of the most prosperous eras in the history of our country. High selling and intelligent advertising can be one of the principal forces in bringing this about.

Dr. Harold G. Moulton
President, The Brookings Institution

Our future prosperity [depends upon] an intensification of technological progress . . . increasing productivity [and] a constantly broadening distribution of purchasing power by an ever-improving ratio of prices to wages [*i.e.*, higher wages or lower prices]. Unless the buying power of the masses, whose wants create markets, is progressively expanding, business will have to be content with a virtually static situation.

The American economy is not . . . strong enough at present to carry the . . . mounting tax load . . . The continuance of fiscal uncertainty and instability will . . . undermine the system of free enterprise, by killing the incentives to take the risks essential to a dynamic, expanding economy.

Joseph H. McConnell
President, National Broadcasting Co.

To those forecasting the business weather ahead, there are several bright patches of blue in the sky for 1950. One is the prospect of better stabilization of production costs. Another is the likelihood that consumer income and spending will continue at near peak rates. A third is the expectation that the automotive industry, always a bellwether of the U. S. economy, will maintain its production at a high level.

I would add to this list a fourth bright spot for 1950 — and a major one — the television industry.

Receiver manufacturers are expected to produce about 3,500,000 sets during the year, which will almost equal the combined output of the past four years. As a result, the present audience will be doubled in one year's time.

This newest mass communications industry demands a tremendous amount of raw materials, literally from all parts of the country; it demands armies of factory workers, technicians, performers, and others; and it demands millions of dollars to pay for such materials and labor. As a large consumer the TV industry will invigorate the national economy.

In its productive role, television will move mountains of 1950 merchandise and services which, under old methods of demonstration selling, could be sold but dearly and in part not at all. In terms of what this means to the great and small companies everywhere faced with the task of selling harder and better, television stands out today as one of the brightest hopes of the new business year.

Neil H. McElroy
President, Procter & Gamble Co.

Procter & Gamble is looking forward to a good year in 1950. Our brands are enjoying strong consumer preference and our organization in all branches is seasoned and aggressive. No one can predict with accuracy the course of general conditions in this country and worldwide, but indications are that for the first six months at least, business activity and personal income will continue at high levels and that in general business conditions will be good. Our business should share fully in consumer spending that would be a part of any such favorable economic situation.

W. L. McGrath
President, The Williamson Heater Co.

The most serious threat to our national economy remains the threat of monopoly.

A monopoly that has control of the output of a product can boost the price to suit itself, always keeping output just a shade behind demand. It was to prevent monopolies from thus taking advantage of the public that our Congress passed our anti-trust laws.

Today, organized labor in steel and coal are pursuing this identical policy. They are in effect dictating prices to the American public by controlling output through limiting number of days worked per year. The fact that this is done to secure a wage advantage to the employees rather than a price advantage to the employers, makes no difference as far as the effect upon public welfare is concerned.

This policy, if continued and extended, will transform our economy from one of abundance into one of scarcity, give us what amounts to a cartel system under the control of organized labor, and wreck the efforts of competitive enterprise. Management's efforts to earn profits by supplying better products to more people at lower cost will come to naught unless organized labor is made subject to anti-trust laws.

Marcus Nadler
Professor of Finance, New York Univ.

Business activity will be at a satisfactory level although somewhat lower than during 1949. Those industries which underwent a readjustment in 1949 will do better. On the other hand, those industries which have not as yet undergone a readjustment will do so during 1950.

On the whole, the first half of the year will be better than the second half. Competition will be very keen and the number of failures will increase. The principal task that confronts management today is to increase productivity of management, equipment and labor in order to prevent a steady erosion in the purchasing power of the dollar.

Gwilym A. Price
President, Westinghouse Electric Corporation

Granted a few assumptions, I feel that we have a firmer foundation for our business structure now than we have had at any time since the beginning of the war in 1941. These assumptions are that there will be no prolonged major strikes, and manufacturing costs and prices generally do not rise much above present levels.

Estimates now are that there will be some $18,000,000,000 of new construction in 1950, approximately the same as for 1949. This, incidentally, indicates the need for approximately $750,000,000 worth of electrical building supplies and equipment, about one-third of which will be used in residential, commercial and other small types of building units.

In consumer lines, prospects are encouraging for the near future. Inventories of electrical appliances, for example, are below normal for this time of year, largely due to a sharp pickup in demand in recent months and shortages of steel that resulted from the eight-week steel strike. At Westinghouse, our appliance output will be increased about 15 per cent during the first quarter of 1950 to help correct this situation.

Of all the consumer goods, television has turned in the most spectacular performance. The output of all manufacturers in 1949 has been well over 2,000,000 television receivers, as compared with 950,000 in 1948 and 185,000 in 1947. With improved programs, and increased broadcasting facilities, television receiver production in 1950 may well exceed 3,500,000 sets.

Initiative and free enterprise have paced our prosperity as a nation. Our future progress depends upon preserving the incentive system that made the American way of life a shining example for all the world.

Charles F. Roos
President, The Econometric Institute, Inc.

Large-scale funding of pensions, whether private or public, is impossible without seriously disturbing the balance between consumption and investment. In the first place, the savings which such funding operations would build up are clearly so far out of line with past practice as to suggest complete unworkability.

For instance, moderate pensions for all persons aged 65 and over could be funded immediately if we were willing to set aside a little more than half of the nation's total wealth for their payment. In the second place, investment of these huge savings would force profits down sharply and so interest rates. And thirdly, to increase savings sharply by funding pensions would inevitably lead to smaller markets for consumers' goods and services, less investment demand in the face of a greater increase in the supply of investment funds, and a general spiral of deflation, which would cause lower production levels and unemployment.

Advanced Management ***is proud to present a new annual feature. Here is a preview of the new year as seen by some of the nation's top leaders from the fields of industry, commerce, education, research, and science.***

Charles Sawyer
Secretary of Commerce

This is an appropriate time to look at our philosophy of economic progress; to determine whether that philosophy is sound enough to provide our people with the direction and the inspiration to work new and greater miracles in the second half of the Twentieth Century.

As we watch this philosophy unfold we see the growing strength of what I should like to call the "new liberalism."

It is not easy to define or describe an economic or social philosophy in a few words or even in a few sentences. It may be helpful to state the basic idea of the "new liberalism"—which is its unifying force and which marks it off from the older liberalism of the Nineteenth Century. That is the idea of *balance*, the idea that there is a middle ground which is best for all in the long run. The older philosophy was based upon the concept of an extremely atomistic society which extolled the individual and all his purposes and which resulted in a violent opposition of the individual to the state and society. The collectivist philosophies of our day go to the opposite extreme of excessive submergence of the individual in society and his subordination to the state. We in America cannot accept — and have never accepted — either extreme. What we want — and that is the essence of the "new liberalism" — is a balanced social and economic system in which the individual plays a large part but with full regard for group and community interests and for the necessary and constructive functions of the state as the agent of the people's will and the embodiment of our democratic ideals.

C. R. Smith
President, American Airlines

First class travel has been declining

since the end of the war. Air transportation has gone contrary to that trend. The year 1949 will show substantial improvement over 1948 in earning capacity for the industry.

Substantial increase in the volume of air transportation must come from broadening the market further. American last month (Dec., 1949) began a new high density, lower fare service between New York-Chicago-Los Angeles. The fare reduction is in accordance with the increased seating capacity of the airplane. This will stimulate air travel and broaden the market without significantly decreasing income to the airline. This same opportunity, available to other carriers, should benefit them and the traveling public, so long as the service is restricted to routes with the potential to support it, and so long as rates are in conformance with the cost of the service.

Costs continue to rise. The trend is for sales price to go down and basic costs to rise, a common problem with all industry. 1950 should be profitable for the airline industry, but it will require due diligence, hard work and good management to make the profit actuality.

Herman W. Steinkraus
President, Bridgeport Brass Company

Based on various information available, my opinion is that the outlook for business for 1950 is good provided the coming session of Congress does not take such drastic action that the confidence of the public, or of business leadership, will be shaken.

I think the American people must begin to think in longer terms than the next six months or the next year. Important and constructive developments can usually not be made in such a short time, and yet they are very essential to the long range well-being of this country.

Hasty action to stimulate business for the short range may have harmful implications for the long range that can be very hard to correct. Thus hasty action on this pension matter may readily cause difficulties later which will affect a wider segment of our economy than has already been affected in the coal industry by an unwise and unworkable pension plan.

There must be care exercised and greater planning on the part of government, labor, and management, or we are apt to find ourselves in an untenable position in the long run, brought about by haphazard and hasty solutions of short-range problems.

The simple fact that we cannot get something for nothing apparently must be relearned by all of us. Robbing one segment of society to favor another can go only so far. United action between those affected is much more likely to bring answers than results obtained through strife.

Leroy A. Wilson
President, American Telephone & Telegraph Co.

Overall expenditures for new construction during 1949 exceeded a billion dollars, bringing the cost of the System's post-war expansion and improvement program to $4,400,000,000.

New demand for service continuous at a high rate. To meet the needs of all customers and improve telephone service further, the Bell companies must keep on adding much new plant.

The System's inter-city television facilities now link 25 cities and total 8,400 channel miles. By the end of 1950, the System expects to have 15,000 channel miles of TV networks in service, connecting a total of 43 cities.

Mobile telephone service likewise experienced substantial growth this year. The System is now serving 7,500 cars, trucks and other mobile units, with a traffic volume of more than 230,000 calls per month.

Telephone research continues to yield new techniques and devices. One such 1949 development is an improved telephone instrument now scheduled for field tests early in 1950.

C. E. Wilson
President, General Motors

1. It would seem that we can look forward to a good business year for 1950. We are making plans to produce cars and trucks next year at the same or slightly higher rate than we did last summer. It would not be realistic to forecast this high rate of demand continuing indefinitely.

2. It is clear that the nation must find some answer for industry-wide bargaining in those industries where the prosperity of the country is threatened by national strikes. The correct solution for this problem must be found in the interests of labor and industry, as well as the overall interests of the nation if we are to have ten prosperous years instead of ten lean years.

3. We are going to have pension plans in business and industry to supplement and improve federal plans. Pension plans recently negotiated by labor unions which have been on the non-contributory basis have been referred to as free pensions. Actually they are forced savings plans as the cost of these plans could otherwise have been paid out in wages with the same effect on costs and prices.

4. Improved technology and our American genius for organizing production and distribution have made it possible to reduce the work week from sixty hours fifty years ago to forty hours now and at the same time raise the average standard of living. Efficient business administration and ever-improving technology, if they are not interfered with, will make it possible in the next ten years to underwrite minimum pensions without increasing current working hours or decreasing the purchasing power of an hour's labor.

Robert R. Young
Chairman of the Board, C. and O. Railway Co.

The most important thing that government and business should remember in 1950 is that we enter that year at an abnormal level of business and employment in terms of domestic consumption. To the extent that labor and resources are diverted to munitions or to exports unbalanced by imports, to just that extent is our standard of living lower than it otherwise would be.

In making the delayed adjustment to peace it will be suicidal for us to become panic stricken at the first increase in unemployment, for premature tinkering in the guise of emergency to still further increase non-productive projects can only end in disaster.

Management must be prepared to cheerfully meet and pay further concessions to labor ad infinitum so long as it lacks the imagination or the courage to condemn and block those abuses of agriculture, politics and foreign policy which make for increased price pressure on the housewife.

The 1950 Economic Outlook

by LEO CHERNE
Executive Secretary,
The Research Institute of America
New York, N. Y.

Optimism is the keynote for 1950. Competition will be keener but high consumer income, healthy psychology about spending, low inventories, strong construction and farming trends and the inflationary effects of deficit financing are expected to offset the negative adjustments that will also be at work.

DURING November we polled our more than 30,000 member firms on their plans and expectations for 1950. Analysis of this annual survey affords a good view of business attitude and action to be anticipated next year.

WHAT BUSINESS EXPECTS

The uneven nature of the 1950 outlook is reflected in the following tabulation of the first 1,100 replies:

	HIGHER	*SAME*	*LOWER*
PROFITS	37.1	22.7	40.2
SALES IN $	44.0	24.1	31.9
SALES IN UNITS	48.2	25.4	26.4
PRICES	16.6	47.6	35.8
LABOR COSTS	57.9	35.7	6.4
COST OF MATERIALS & PARTS	30.4	48.9	20.7
SALES COSTS	40.2	50.6	9.2
ADVERTISING COSTS	33.2	57.6	9.2
BAD DEBT LOSSES	29.9	65.7	3.9

Note these significant differences regarding Sales in Units among manufacturers in various fields:

Soft lines. Over 60% believe they'll sell more units, less than 20% think they'll sell fewer units.

Producers' goods. Almost the same number of companies expect to sell more units as expect fewer units (36%).

Construction. Nearly half the companies anticipate a dip in sales. Only 16.3% look for greater unit volume.

These specific expectations do not necessarily jibe with the Institute's forecast for 1950. However, this conflict points up the varied pattern of next year's business.

1950's SPECIAL PROBLEMS

As indicated by management here is a run-down of the main challenges and how they plan to meet them:

Sales . . . Two out of five companies plan to increase their sales forces. Among wholesalers the proportion is nearly 50%. Greater sales efforts, more canvassing, etc., is anticipated especially for consumer durable lines in 1950.

More advertising . . . Less than 7% plan to cut down. Better than one in three intends to spend more. Retailers (45%) and service establishments (41.5%) will be fighting the threatening sales dip with greater ad budgets.

New products . . . Nearly a third plan to use new items to strengthen competitive position. 40% of manufacturers, mostly of consumer durables and producers' goods, show this interest. The receptivity of all the distributive trades to new ideas is shown by the number of wholesalers (36.4%) and retailers (27.1%) who plan to add new lines.

Brand name promotion . . . Wholesalers (35.7%) and retailers (30.9%) are banking heavily on the pulling power of branded merchandise. Interesting to all levels of production and distribution is the 9:1 margin in favor of branded goods.

Redistricting sales territories . . . is getting considerable attention (26% among wholesalers, 20% among manufacturers); undoubtedly reflecting the rapid change in area potentials and availability of new market data.

Price cutting, off-season sales, new models . . . don't figure in future plans to any considerable extent.

COST CUTTING . . . looms as management's No. 2 problem. This is how the picture shapes up in replies to the Pooled Information Survey:

Added mechanization . . . 37% plan to invest in more modern facilities to battle next year's cost-price squeeze. Among manufacturers the ratio is higher—close to 45%.

Streamlining plant procedures . . . gets almost as high a vote (36%) — with manufacturers again in the lead (45%), followed by retailers (almost 24%).

Material handling . . . takes first place among specific targets for cost cutting. Over-all, almost two out of five firms plan some action in this area. This interest is shared by manufacturers (44.7%), wholesalers (38.5%) and retailers (35.4%).

Higher work loads . . . are planned by about 30%, with an even higher percentage among retailers and service establishments.

Improved office procedures . . . are the target of 27.6%; and 18.1% plan some type of incentive pay.

FINANCING . . . The Survey indicates that most executives are relatively optimistic. No general shortage is likely,

but there will be sharp differences between equity and loan capital, between availability of funds to smaller vs. larger companies, to firms in one line as against another, etc.

Capital goods . . . The survey showed that 41.9% of the respondents expect their capital expenditures next year to be equal to 1949. The 29.3% who plan to spend less are almost completely offset by 28.8% who plan to spend more. Among the manufacturers, slightly more see greater equipment needs in their own firms than see less.

WILLING TO SPEND

Executive opinion gave little evidence of hesitating over next year's commitments:

11.6% say they plan to take on long-term borrowing

19.2% plan significant new commitments in building

25.5% intend to make significant new commitments in machinery and equipment.

An equally encouraging picture resulted from the question *"Compared with '49, how do you evaluate your requirements next year in terms of"*:

	Higher	*Lower*	*Same*
New machinery & equipment	28.8	29.3	41.9
New construction	20.5	32.4	47.1
Number of employees	29.7	22.9	47.4
Average size of inventory	21.4	29.7	48.9
Credit	23.9	13.5	62.6

By industries, makers of consumer durables and producers' goods plan on heaviest commitments in new machinery and equipment. Manufacturers as a group seem to have relatively fewer construction projects planned, but wholesalers and retailers apparently will make up some of this decline. Most of the employment gain will come from manufacturing and service establishments.

"How are you betting the general price level will run over the next 5-10 *years?"* showed: 52.8% (higher) and 47.2% (lower).

When questioned as to their own prices next year, however, these same executives are more bearish; only 16.6% expect them to be higher, 35.8% say they'll be lower, nearly one-half (47.6%) look for stable prices.

WAGE LEGISLATION

The effects of two recent legislative changes were appraised thus:

89% say their payroll costs will not be affected by the new higher minimums necessary to qualify employees for executive, professional or administrative exemptions.

86% report that the jump in the minimum wage from 40¢ to 75¢ will not affect their employees. In the relatively few firms where it will, however, the effect apparently will be substantial: nearly 5% say that 20% or more of their work force will be affected.

OPTIMISM

The most important single conclusion to be drawn from the survey is that American business is confident about prospects in the coming year. It's far from unanimous, of course; a substantial minority, (roughly 1 in 4) expect their sales in '50 to be lower. Overall, however, business expects sales as well as costs to be the same or higher, prices and profits to be the same or somewhat lower than this year.

WHAT RIA FORECASTS

1950 will be a good year for business over-all. The 1949 adjustments aren't over—many firms still face the problem. Some who have been through the mill once may be in for a second squeeze. Competition will be even keener and more widespread than it was in 1949.

But dominant reality will be the cold war, preventing any real dip. Some companies will be hurt as prices sag a bit, profits drop a little, and cost increases pinch harder. But, net, no sharp downtrend ahead . . . 1950, like 1949, will look good in retrospect despite its weaknesses.

		Forecast	
	Most recent rate	*1950 average*	
Basic Economic Index	*3rd qrtr. 1949*	*1st half*	*2nd half*
Gross Nat'l Product ($ billion)	256	252-257	245-250
Nat'l Income ($ billion)	218.7	216-220	210-215
Employment (civilian; million)	59.7	59.5-60.5	59.0-60.5
Unemployment (million)	3.4	3.5-4.5	4.5-5.0
Industrial Production ($ billion)	166	175-180	170-175
Retail Sales ($ billion)	125*	123-127	118-123
Wholesale Price Index ('26 = 100)	153.4	150-157	147-153
Retail Price Index ('35-'39 = 100)	169.0**	165-170	158-165
Corp. Profits (before tax; $ billion)	26.0***	22-25	18-23

*Adjusted for price changes, this represents more units than '48.

**Consumer index for 1950 will dip an average 5% from today's level. Wholesale prices (aside from erratic items) will show less of a decline.

***Smaller, younger firms will keep showing relatively poorer profit.

No sizeable decline seems possible before spring at the very earliest. If a dip appears then, it should be substantially eased and shortened by fall seasonal factors and government action sparked by the '50 election.

In terms of the specific forces that will bear directly on your plans, here are the factors that are shaping markets, sales, costs and prices:

ON THE UP SIDE . . .

First postwar trouble was met fairly easily . . . At year-end 1949, every index points to sustained high-level business:

1. *Consumer income* is running within 3% of 1949's record peak . . . It will stay high. Strikes ended before real damage.

2. *The GI dividends* will have a magnified psychological effect . . . The $2.8 billion will be "extra money" . . . will probably be spent quickly.

3. *Consumer psychology* remained healthy through 1949's slide-off. A Federal Reserve survey in midyear showed a big majority optimistic . . . Consumer

buying intentions were as solid as ever. Price expectations, though pointing slightly downward, were no real obstacle to purchasing.

4. *Retail sales,* as indicated in the table above, are encouraging. Special promotions of quality goods at popular price are well received. With the next few months bringing extra cash and an expected job rise, retailers can confidently count on a receptive consumer state of mind.

5. *Inventories* were low even before the steel and coal stoppages. Some rebuilding, in both hard and soft lines, was a plain necessity . . . It was the basis of the buying surge during the early fall "boomlet". Now, the scarcity of coal and steel has piled up demand substantially. In many hard lines, buying will have to be increased for several months. This will swell payrolls and add to the general feeling of confidence.

6. *Construction and farming* will probably show some mild decline; but basically both are strong — especially with government assistance. They will continue their major contributions to a high-level economy.

7. *Government financing* is already exerting new upward pressures. Forget talk of economy. Deficit now $5 billion. More spending coming. No matter how serious the long-range effects of this deficit financing, it will mean more purchasing power in 1950, thus add to business upturn.

ON THE DOWN SIDE

There are many forces on the negative side . . . These will offset much of the upward pressure, even early in the year. Mid-1950 will probably bring a balancing out, with a resumption of the gradual and piecemeal downtrend which characterized so much of 1949 . . .

1. *Business spending,* already down from the high reached in 1948, will continue falling through all or most of 1950 . . . 10%-15% under today. This can be a strong deflationary pressure; cutbacks in capital goods have been decisive in all major depressions.

But the economy doesn't seem too vulnerable to this possibility . . . Our greatly expanded industrial plant needs big normal replacement now. And growth hasn't stopped. Also, there are still industries which have not caught up with war-created lags. Thus, despite a continued decline, there's no reason to believe it will precipitate any serious recession.

2. *Automobiles,* which helped brake 1949's downward readjustments, are finally getting near their own turning point. Timing is uncertain, but 1950 . . . probably sooner than later . . . will see real competition back. Even if total output hits five million, this support will be weakening.

3. *Exports* are another area of the economy slated to weaken some. But total exports run only about 5% of the U. S. gross national product, so that a decline here isn't likely to have any important consequences.

ON BALANCE

1950 will very closely resemble this year's pattern. The level of business activity won't be too far from the 1949 average. Prices will continue erratic, but no drastic change in general indexes. Costs will be as tough to cut as they are today. Sales will be good . . . but most companies will have to dig for them even harder than in 1949.

More costly next year than now will be failure to trim expenses . . . failure to boost productivity and cut down on waste. Shortcomings in distribution, production, quality control will hit hard. 1950 will present less leeway for errors in judging price, market, etc. At the same time, aggressive planning will pay off for most companies. *Watchword for 1950:* Be alert to first stirrings of any market changes; and keep your operations flexible so you can quickly adapt to shifts.

Experience in 1949 showed that distress situations are only temporary as long as the over-all economy remains as strong as it's likely to be.

There's every reason to be *cautious* in planning for the next year, but remember many companies in 1949 pulled their horns in too fast and too far, thus losing business they could have had . . . because they lacked the stocks and assortments to cash in on the demand.

MODERN INDUSTRY AWARD RULES

Chapter eligibility requires:

1. Appointment of a Chapter Project Committee with written notification of its appointment to the National office, naming the Chairman and members and announcing that the Chapter is formally entering the competition. Questions concerning the eligibility of a project should be directed to the President in writing.
2. That the project be initiated and carried on as an SAM Chapter project. Acknowledgment should be made in the entry for any assistance rendered by other organizations.
3. The project must meet the requirements stated in the announcement of the Award.
4. The project must be completed and filed in report form with the National office on or before *September 30, 1950.* The report must be complete and prepared in form suitable for publication. The judges will make their decision on the basis of the report submitted. No further information will be requested in by the judges. Each report must stand by itself. No supplementary information can be accepted after *September 30, 1950.*

The judges will make their selection on the basis of the following factors:

1. The significance of the results of the project from the standpoint of its contribution; the breadth and scope of the project; the creative leadership which the project entailed; any self-perpetuating interest and activity which the project engendered.
2. The number of persons included in or influenced directly and secondarily by the project.
3. The completeness and effectiveness of the report.
4. *Demonstrated results.*

The decision of the judges will be final.

Modern Industry and Advanced Management will have the right to publish any of the reports submitted as Chapter entries.

The winning Chapter will announce through a report to the National office, within sixty days after receiving the award, the project to the development of which the $1,000.00 award will be devoted.

Resistance to Change — Its Analysis and Prevention

by ALVIN ZANDER
Research Center for Group Dynamics
University of Michigan

Obvious improvements have sometimes caused intense resistance. Research shows that any change may be resented unless intelligent planning is done in advance to help the "changees" understand their own feelings.

IN order to derive the benefit from research in industrial relations, someone must plan a program of action to apply them. When one begins implementing, he must change the social system in some way. The creation of this change can cause the development of resistance in those influenced by the change.

First, we shall look at what resistance is; second, the conditions that appear to be associated with its development; and third, some means whereby resistance may be prevented or decreased.

NATURE OF RESISTANCE

Let us look at some examples of resistance growing out of administrative changes.

A large number of foremen in a company were given training in how to treat their men like human beings. They liked the course and were eager to apply their learnings on the job. The company found, however, that relatively few of the foremen are really behaving any differently on the job. They know their stuff but do not use it.

In one of the paper-shuffling government agencies a new data form was developed which all admitted was briefer, more logical, and easier to use. Yet, this department found that the employees often omitted much of the data needed on this form, their speed of work decreased, and they objected to it on many insignificant grounds.

Our favorite example of resistance was furnished by a farmer in the TVA area. He assured us that he knew all about contour plowing, the rotation of crops, and the use of what he called "phosaphate" for improving the soil. He allowed as how these were good ideas, "But," he said, "I don't do it that way."

These examples have one common denominator which might serve here as a definition of resistance. They describe behavior which is intended to protect an individual from the effects of real or imagined change. This reaction might be to either real or imagined change since the resister might be reacting to things that were really not changed but he thinks were, or fears that they might be. If a person believes a change has been made, or fears potential change, it makes no difference whether or not it is true in fact. He will act as though there has been a change.

How can one recognize when resistance is working? Unfortunately, there is no list of typical behavior which can be described as the symptoms of resistance, which, if present, indicate that one is dealing with this phenomenon. It is the protective function which the behavior is providing which determines whether or not a person is resisting, rather than the kind of thing he does. By the same token, all behavior which opposes change is not necessarily resistance. Some opposition to change may be perfectly logical and grounded on well supported reasons. The behavior must be attempting to protect the person against the consequences of the change in order for it to be resistance. This may be clearer if we look at the origin of the concept.

THE HOSTILITY PATTERN

The term and the concept we are using here has been borrowed from psychotherapy. When a therapist is attempting to change the behavior of the patient, he expects resistance from him. The therapist takes the position that the pattern of behavior used by the patient (which makes him a "sick" person) is a means to some satisfaction for him even though it also may make him ineffective or unhappy. Resistance occurs in the patient when the process of change (therapy here) comes close to being successful. When faced with the unpleasant necessity of giving up the behavior he does not like, but somehow needs, he begins to balk. He becomes silent, blushes, changes the subject, tells fibs, comes late to appointments, becomes angry with the therapist, or any of a number of similar things. The therapist watches for the context in which these signs of resistance occur since these indicate the crucial problems in the way the patient sees and deals with his world.

For the administrator, resistance may occur under fairly similar conditions. When he attempts to create a change the administrator may develop, unintentionally, many threats to the person or groups with whom he works. The behavior used by the resister may take many forms.

It may take the form of hostility either openly expressed or obliquely implied. The aggression may be directed against the change itself or against the administrator. What is done depends on how the person can safely resist without further endangering himself in that situation. Other symptoms of resistance may be sloppy effort after the change has been made, or fawning submissiveness which is a hybrid of applepolishing and apathy. It can occur by lowering the level of aspiration to an inefficient degree, discouragement, or the development of unhappy cliques and outspoken factions. It is important, however, to re-

Adapted from a paper presented at the meeting of the American Society for Public Administration in Washington, D.C.

mind ourselves, that it is the function which such actions are performing for the person that makes them resistance rather than what they look like.

WHERE RESISTANCE STARTS

It will be helpful if we look at a few conditions conducive to resistance.

1. Resistance can be expected if the nature of the change is not made clear to the people who are going to be influenced by the change. In one of the largest government agencies, a change required one department which originally had the responsibility of processing papers involved in contacts with certain industries to share this task with another office. Announcement of the change was issued in a brief statement. The immediate reaction was violent objection, even though some of the workers privately admitted that it was a wise and necessary move. They were reacting to incomplete information. Many people fear incomplete information about changes which influence them. It is more comfortable to know exactly where one stands.

There is some evidence to support the hypothesis that those persons who dislike their jobs, will most dislike ambiguity in a proposed change. They want to know exactly what they must do in order to be sure to avoid the unpleasant aspects of their jobs. Some administrators may attach too much importance to the value of information itself. Apparently they reason that people "ought not" to resist the way they do because the administrator has told them everything he thinks is important for them to know about the impending change.

2. Different people will see different meanings in the proposed change. Some of the resistant reaction described above came about because some workers saw the change as an indication that they had been doing a poor job, others assumed it meant their office would soon be abolished, still others were troubled since they were losing some of the power they had formerly controlled. We tend to see in our world the things that we expect to see. Complete information can just as readily be distorted as incomplete information, especially so if the workers have found discomfort and threats in their past work situation.

3. Resistance can be expected when those influenced are caught in a jam between strong forces pushing them to make the change and strong forces deterring them against making the change.

4. Resistance may be expected to the degree that the persons influenced by the change have pressure put upon them to make it, and will be decreased to the degree that these same persons are able to have some "say" in the nature or direction of the change. In a garment factory a change was required. The switch meant that workers would be asked to change their jobs and in many cases, to develop working relationships with new people. An experiment was made in which three different styles of introducing this change were tried out. One group of workers were simply informed about the change and were allowed to ask questions. They developed the most resistance as measured by turnover, absenteeism, and slowness in learning the job. Resistance was *less* in those groups who sent representatives to a meeting in which the nature of the change was discussed and all persons present made plans to carry out the change.

Resistance was *least* in the groups in which those to be affected discussed the nature of the change, laid plans for making it, and as a total group made decisions which were satisfactory to the entire group. In this latter group everyone participated. They had an opportunity to develop their own motivation instead of making the change only on the basis of orders from the boss. The fact that they were able to develop their own understanding of the need for the change and their own decisions about how to do it, reduced resistance most effectively.

5. Resistance may be expected if the change is made on personal grounds rather than impersonal requirements or sanctions. A supervisor posted the following notice:

> I have always felt that promptness is an important indicator of an employee's interest in his job. I will feel much better if you are at your desk at the proper time.

Employees responded to this notice by appointing a committee to get information which would justify their late arrival at the office. Many administrators can expect trouble in establishing a change if it is requested in terms of what "I think is necessary"; rather than making the request in the light of "our objectives," the rules, the present state of affairs, or some other impersonal requirement.

6. Resistance may be expected if the change ignores the already established institutions in the group. Every work situation develops certain customs in doing the work or in the relations among the workers. The administrator who ignores institutionalized patterns of work and abruptly attempts to create a new state of affairs which demands that these customs be abolished without further consideration will surely run into resistance.

These are a few of the conditions in which resistance might be expected to occur. There probably are many others.

DECREASING RESISTANCE

Some procedures on the part of the administrator might be useful in preventing or decreasing the resistance which arises in a changed situation. Let us look at a major principle in preventing resistance and some of its basic implications:

> *Resistance will be prevented to the degree that the changer helps the changees to develop their own understanding of the need for the change, and an explicit awareness of how they feel about it, and what can be done about those feelings.*

This principle implies that the administrator can use resistance as an important symptom. Specifically, he can use the nature of the resistance as an indicator of the cause of resistance. It will be most helpful to him as a symptom, if he diagnoses the causes for it when it occurs rather than inhibiting it at once. The same resistant behavior, for example, may indicate that one person feels that he has lost prestige by the change, to another it may mean that he has lost power over an area of influence which he formerly controlled, and to still another it may mean that he fears that his friends will think less well of him. An administrator must know what the resistance means in order that he may effectively lessen it by working on the causes instead of the symptom.

There has been a good deal of experience in recent years in staff meetings and in work conferences like the National Training Laboratory for Group Development with the use of a group observer. This observer gives to the

group, and the leaders, information about the group and the nature of any resistance. In these cases, the data about itself is made common group property for all members to discuss and to use in planning better work relations.

This communication must go in both directions. If two-way communication is not maintained, negative attitudes created during resistance will tend to persist.

RESTORING UNDERSTANDING

In a utility company a new office was formed with a new set of supervisors. The entire staff of supervisors called the workers together and scolded them for shortcomings in their performance. The tone used by the supervisors was so aggressive that the employees found it difficult thereafter to discuss anything with them except those topics directly related to the effectiveness of production. The workers kept themselves at a distance from the supervisors and the supervisors made no move to close the gap. The result was that distance between these two groups made it impossible for them to come to any new understanding of each other. This mounting hostility was lessened only when the personnel department advised a number of "gripe-sessions" with small groups of workers in which the two levels developed a new understanding of each other.

Another implication in the above principle is that there is value in blowing off steam. The psychologists call this a "catharsis." There is good evidence that new attitudes can be accepted by a person only if he has a chance to thoroughly air his original attitude. Resistance to accepting the rigid, and often apparently meaningless, rules of military life, showed itself in flagrant violation of the rules, often in a most aggressive manner. Punishment only increased the resistance. Relief was provided by group sessions in which men were able to thoroughly gripe. After this relief of tension, they were able to turn to a reasonable discussion about what they could do to learn to live in terms of these requirements. It is as though new air can be put in the tire only after the old air is released.

A third implication of the earlier expressed principle is that resistance may be less likely to occur if the group participates in making the decisions about how the change should be implemented, what the change should be like, how people might perform in the changed situation, or any other problems that are within their area of freedom to decide. The experiment in which three ways of introducing a change were tried out showed that the workers, who had a chance to make a group decision about the ways in which the change should be made, developed much less resistance than did those who were simply called together to be told about the change and have all of their questions answered. What is important here is that the workers feel that they have a chance to discuss the major factors involved in the change, a chance to understand the nature of the fears they have in facing this change, and a chance to plan what they will do to calm their fears.

SELF-DIAGNOSIS GETS ACTION

Still another implication is that resistance will be less likely to develop if facts which point to the need for change are gathered by the persons who must make the change. A number of high level supervisors in a utility industry came to feel that the workers had many negative attitudes about their jobs which were due to poor supervisory practices. Each supervisor, quite naturally, felt that other supervisors were at fault. Top management set up a number of study groups in which the supervisors first learned how they could diagnose the causes of these negative attitudes. Each supervisor then returned to his own work place and gathered facts that would be necessary for him to analyse the causes of negative attitudes he could spot among his workers. Later the supervisors came together to report their findings. At this meeting their enthusiasm for change in their own practices was high because they had participated in gathering the facts which best described their problems. People will be more likely to act in terms of information they gather themselves than in terms of information gathered by others and delivered to them. If it is clear that a change is indicated in a given state of affairs, but the people who must abide by the change are resisting the shift, they can come to see it themselves by obtaining the facts which properly "case" the situation.

To summarize, we have said that resistance is a problem which any person who is responsible for social change must face. Even though it is strange and unexpected behavior, there are causes for the development of this phenomenon. These causes may be understood, and resistance may be prevented, if the administrator will help the changees develop their own understanding of the need for change and explicit awareness of how they feel about it, and what can be done about those feelings.

Two-way communication at work. Mr. J. F. Lincoln, President, meeting with his employees Advisory Board of the Lincoln Electric Co.

Size and Effectiveness —

An Administrative View

by HOWARD K. HYDE
Author, with Marshall E. Dimock,
Bureaucracy and Trusteeship in Large Corporations
Washington, D.C.

When an organization expands, it creates problems of control and communication. Administrative techniques and special methods of performance measurement are two of many management tools that make organized size effective.

NO organization is too big to be administered effectively. Bigness as unworkability is a bogey. Efficient size depends upon the purpose for which the organization is established, plus the necessary willingness to administer in ways appropriate to that size. If the purpose demands a giant structure there are administrative methods available to make it work. Size presents administrative obstacles but they are far from insurmountable.

Of course, there should be a legitimate objective for large size. There would be little value in transforming the nation's small watch or shoe repair shops into great continent-wide chains. As small businesses they can operate effectively with a high degree of independence. There is nothing inherent in either the objectives or the methods of such businesses which impels them to integrate. But interstate telephonic communication is another matter. Here to accomplish the objective of furnishing adequate service nationwide organization is indicated. Similarly, to mass produce an automobile at minimum cost requires extensive integration of the supporting plants and processes.

ORGANIZED SIZE

Perhaps in no field is the effectiveness of size so apparent as in defense. During World War II we effected a high degree of integration through unified theatre commands overseas, and through the Joint Chiefs of Staff and the active participation of the President of the United States. Millions of men were involved. Even this was not the most efficient size. The United States was also tied closely to the Western Allies and their efforts were more loosely coordinated with those of Russia. The endeavors of multiplied millions were thus integrated toward common goals. Organized size was the margin of victory.

In large organizations it is possible that the actions of constituent units may be slowed down in the interests of coordination. But that "inefficiency" may be much more than counterbalanced by the contributions of coordination itself.

It is sometimes contended that an organization can become so large that it is beyond the comprehension of a single mind. Of course, any man is soon lost if he tries to encompass all the details of a large enterprise. But a directing executive does not need to know all of the details. The larger the organization becomes the more general must be the decision of the top executives. No single general purpose is beyond one man's comprehension. It is in detail where comprehension is lost.

All this is not to say that size does not present administrative problems. It does. Size ordinarily denotes complexity. Growth often takes place through the addition of lines or through extending the company's control toward its sources of raw materials or toward further fabrication of its products. This adds variety and hence organizational complexity. Similarly, to make use of the advantages of training and experience, specialization is often highly developed. This affects the organization structure in order to achieve coordination of these specialists.

POWER TO DECIDE

With size and complexity, defects in organizational structure easily occur. Some overlapping and duplication exists in the best run firms, but if carried to excess the advantages of size are lost. Perhaps most serious is the tendency to retain centralization in the power to make decisions. A large enterprise cannot afford the same degree of administrative centralization that a small firm can. If information and instructions have to go through many hierachical layers much time is lost and too much distortion takes place.

For the large corporation, the prod of competition is greatly modified. Typically the pressure is eased and in any case the number of competitors is greatly reduced. Moreover, for functionally specialized divisions of a large enterprise competitive pressure is reduced still further because it is hard to identify responsibility. For example, a faltering sales program can be due to, or at least blamed upon, the manufacturing division or those responsible for product design. Diversification of product also provides a protection. It is unlikely for competitive pressure to occur equally strong on a whole line. Some products can thus carry other products, and the arrival of the whole line be made easier. The natural tendency is to slacken the pace.

Size also brings complications in leadership and human relations. In large concerns more than in small ones there is a tendency for executives to specialize. This means that, unless corrective measures are taken, men get to the top of the organization knowing their specialties but without the capacity to take the comprehensive view. In terms of human relations, size separates the rank and file from the top executives and tends to depersonalize relationships.

Adapted from a paper presented at the Annual Meeting of the American Political Science Association, Chicago, Illinois.

ADMINISTRATIVE TECHNIQUES

The experience of many leading corporations points the way at least to the internal administrative techniques to meet the difficulties of bigness. With increasing size, relatively more attention must be paid to organization. In a small concern, characterized by frequent personal contacts, extreme flexibility in organization may work very well. Mutual understanding often substitutes for definite structure. Large size, on the other hand, requires more physical separation. Formal structure needs to be developed accordingly to minimize misunderstandings and maximize effective effort.

What is needed is to group activities in such a way that responsibility for results may become clear. Accordingly, giant corporations commonly organize so that a relatively complete product is made by subdivisions smaller than the corporation itself. Thus the A. T. and T. provides nationwide service largely through territorial subsidiaries. The great divisions of General Motors are responsible for manufacturing and selling their own lines of automobiles. Such "divisional" organization is one of the more striking current developments of large-scale corporate management. In this way major executives have under their jurisdiction most of the tools which they need to turn out end products of the corporation. They can be given power and be held responsible in realistic fashion. Functional coordination is commonly provided through specialized staff services.

THE SUPERVISORY "PYRAMID"

The addition of hierarchical levels is an essential accompaniment to the growth of a large organization. Try as an enterpriser will to maintain only direct relationships with his subordinates, there soon comes a time when he must let go and allow intervening layers to be constructed. In a great enterprise there may be a half dozen or more supervisory levels in the hierarchy. We commonly speak of this as a pyramid, but it has a decidedly different shape. Doubling the number of levels may accommodate much more than double or quadruple the number of employees. The structure has a sharp point and a widely flaring base.

A hypothetical yet realistic example will illustrate this. A "pyramid" can be construed symmetrically on the assumption that each supervisor has five supervisory and two non-supervisory immediate subordinates, except the foremen, each of whom have seven non-supervisory subordinates. In such a structure the top four layers will include 218 employees, still a small business. But eight layers will accommodate about 137,000 employees, a great enterprise more than 600 times as large. The top three supervisory levels and their non-supervisory subordinates combined would include only 7/100 of 1% of the total employees—a very curious "pyramid" indeed. A shift from medium to great size can thus be effected with the addition of relatively few layers and without the creation of a top-heavy overhead.

DECENTRALIZATION

Of course for workability, decentralization must and does accompany size. Realistically it must be admitted that decentralization of authority has often followed rather than preceded physical decentralization of an enterprise.

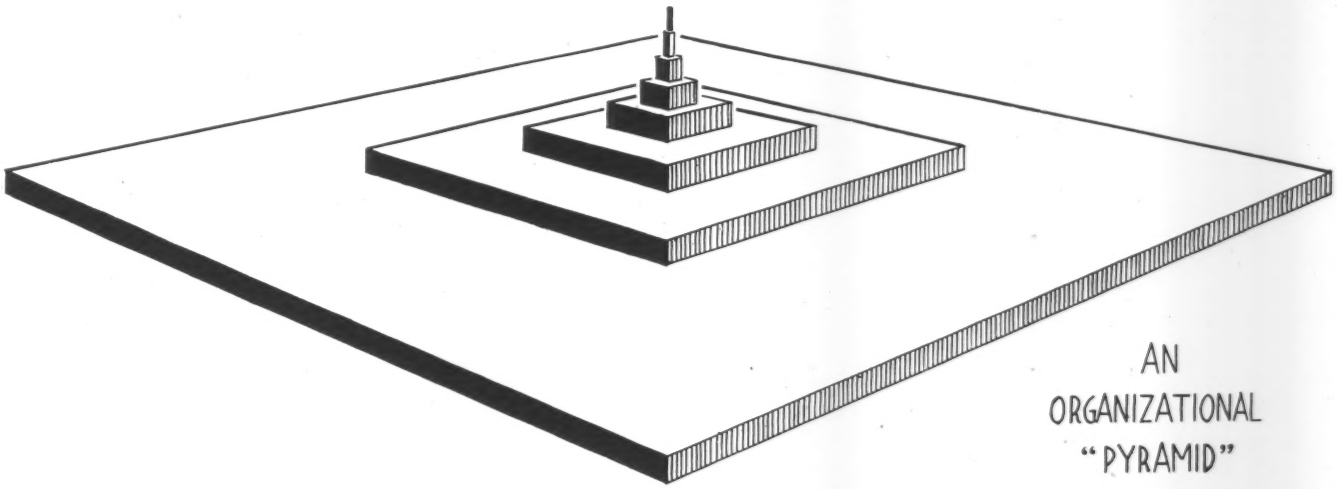
Administratively many advantages are gained through decentralization of authority. It makes large organization more workable. It facilitates effective internal control because it helps prevent executives from bogging down in detail and instead allows concentration on essentials. It provides flexibility with essential consistency. It makes possible better service to customers. Broad gauge leaders can be developed under such a system. And by bringing decisions close to those who must carry them out a significant contribution to morale is made.

PROBLEM OF COMMUNICATION

Of the factors which may limit size, communication probably is chief. Leadership, to be effective, must have the power of knowledge of what is going on in the various parts of the enterprise. Similarly each unit needs to know general policies as well as immediate details to assure its work being tied in with that of the whole.

The large enterprise loses much of the advantage of face-to-face contact which a small concern may enjoy. However, personal communication may be promoted through various devices, as appropriate location of offices, use of committees, travel, the telephone, and the positive encouragement of officials to get together on their own initiative to meet mutual problems. Much of this communication takes place across hierarchical lines.

Nevertheless, in any large organization the written word must be a main-



Isometric view of an 8 layer organization controlling about 137,000 employees. With the right administrative techniques a shift from medium to great size can be affected without the creation of top-heavy overhead.

stay. It provides a means of penetrating through the various levels of the hierarchy as well as of extending over large geographic areas. Operations manuals and other instructional material are common. Many corporations have developed employee magazines which attempt to enlarge communication in a less formal manner. Even the annual report has undergone a transformation in recent years to become more understandable to the average stockholder, the employees, the general public.

The basic structure of internal communication is the hierarchical organization. However, many managers feel that they cannot depend upon it exclusively. Distortion and blockage develop not only through unintentional change but also because the interests of executives are involved in the information which they are expected to communicate. Some corporations have established controller organizations separate from and roughly parallel to the main organization in order to provide an independent check. Personal circulation and inspection by executives or their assistants are fruitful. Administrative surveys, correspondence review, work measurement, statistical analyses, and financial audits are other approaches. Sometimes it is required that employees' suggestions be transmitted to at least two hierarchical levels in order to prevent immediate supervisors from smothering ideas or criticism.

The whole process of employee relations provides much in the way of checking the reliability of the central communication system. Appeals, counseling, collective bargaining, and the use of management-employee committees are not only useful communication means themselves but help reveal distortion which may have taken place in other channels. Reliable, effective communication is thus not impossible in giant organization.

YARDSTICKS FOR EFFECTIVENESS

Various means also have been developed to compensate for the dulling of the immediate prod of competition. In General Motors, for example, attention is paid to the percentage of its class market which each automobile commands. The A. T. and T. has developed an elaborate performance measurement system which is concerned with such things as the average time taken to answer signals on switchboards, or the proportion of installation appointments which were kept. These non-financial measurements may be identified closely with work objectives, which have a bearing upon financial success but are difficult to measure directly in profit terms.

Research is a fertile source of new products to be used in building a more diversified line. Because of the threat to established products not all improvements are adopted immediately, or even soon. This is one of the more telling accusations which can be leveled against great corporations. Nevertheless, research laboratories have spawned many marketed products.

DEVELOPING "GENERALISTS"

The creation of executive leadership is another area in which conscious effort must be made in the large enterprise. Specialists may be obtained to some extent through routine promotion. Generalists, which giant organizations must have for continued success, need to be developed. Accordingly, many corporations have embarked upon definite and rather extensive executive development programs — Vicks, General Motors, Standard Oil of New Jersey, to name a few. Through special selection, training, tours of duty, and developmental promotion, broad gauge executives are obtained. Decentralized operations also make a significant contribution to the creation of competent executives who can assume increased responsibility with confidence.

Managerial concern with the human element has now been extended to include all employees. Few, if any, fields in management are currently being given as much attention as this. The more progressive corporations are attempting to impart more recognition to the individual as a person and to act less as though workers were cogs or a commodity. The growth of powerful and extensive labor unions has had no small influence in this development. Management has begun to realize that, to avoid the costs of labor strife, labor must be recognized as human.

The impersonalization of the giant enterprise is undergoing change in several ways. Foreman instruction includes information on the human aspects of supervision. Employee suggestion systems and more participation by workers in some of the decisions which concern them, such as through labor-management committees, are no longer rarities. Attention is being paid even to the small groups of which workers are members. Some research, as yet tentative, indicates that, other things being equal, a worker identified with a small work group has higher morale than a member of a large group. Allowing the many small groups to be significant thus has direct importance to a great enterprise.

In terms of security, the large business seems to have an advantage over the small one. The giant concern with large reserves, a diversified line or an essential product, and equipped for market, product and management research, can weather economic vicissitudes more easily than can its smaller cousins.* Many of the large companies have developed extensive programs including such things as pensions, severance pay, and job security. These have direct influence upon morale and tend to counterbalance some of the effects of impersonalization.

SHOULD SIZE BE LIMITED?

Many answers have thus been developed to the threat to administrative efficiency brought on by large size. We have sketched only some of the principal means; there are numerous, detailed elements which have not even been mentioned. It must be recognized, however, that large corporations generally do not utilize all of the available methods. But as size has increased, managerial techniques have been developed to match the internal problems presented.

If the large concerns are to be reduced in size by government action, such action would seem to need to be justified primarily on some other basis, such as the need for the more effective operation of competition as a regulator to protect the public. From the standpoint of the efficiency of the general economy a case might be made for this, but that is beyond the scope of this article.

In terms of internal administrative efficiency no organization is too large to administer, given a justifiable objective and a willingness to use appropriate managerial methods.

*Parenthetically, one may well ask how much efficiency is lost to the general economy through the wasteful process of business failure.

How Profits Change With Prices and Volumes

by VERL L. ELLIOTT
Controller, Atlantic Refining Co.
Philadelphia, Pa.

Do you know the "why" of profit changes? When distribution strategy requires forecasting for changing markets, can your records present an accurate picture of the potential result?

WHAT is the effect of a change in your business — either an increase or decrease in prices received or quantity of goods sold? If you can approximate the effect on your profits of a 10 percent change in your business, whether it is an increase or a decrease, you are to be congratulated.

It is a regrettable fact that the accounts of most companies are not so arranged that the above questions can be answered readily. In business establishments, both large and small, it is exceedingly difficult for accountants and operating managements to be sufficiently well informed of every detail as to predict accurately the effect of changes in their business.

Changes in profits may be divided into three main causes:

1. Selling prices
2. Quantity (volume) of goods sold
3. Cost (a. Fixed, b. Variable)

The selling prices and quantity of goods sold usually do not present any difficulty to obtain. Proper costs have always been very difficult to ascertain in most businesses where extensive manufacturing processes are used. If one or a few raw materials are used to produce a large number of finished products, cost problems increase materially. One of the most difficult cost problems arises when it is desired to know how much costs will change if the quantity (volume) of goods increases or decreases — say 10 percent from the normal quantity manufactured and sold.

FIXED AND VARIABLE COSTS

Unfortunately for the cost accountant, all items of costs do not increase or decrease alike when the quantity of goods produced changes. A study of the different elements of costs soon reveals that some costs increase directly in proportion to the increased quantity of goods produced. This kind of a cost is a variable cost, since it varies almost exactly with the changes in quantity of goods made. Purchased raw material from which the products are manufactured is usually a variable cost. Piece work payroll costs are another example of variable costs.

The study will reveal also that there are some costs that do not change with a moderate increase or decrease in the quantity of goods manufactured. This kind of a cost is a fixed cost. Salaries, real estate taxes, and depreciation (if on a life basis) are usually regarded as fixed costs.

SELECTING PROPER COST CYCLE

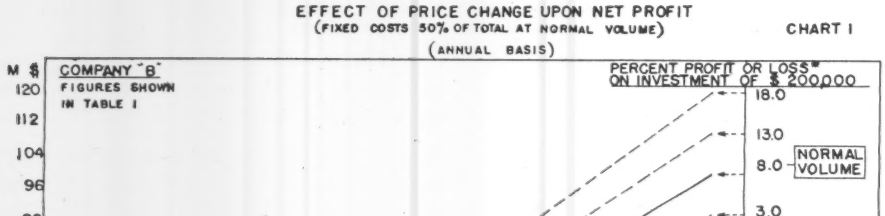
Before leaving the discussion of fixed and variable costs, on which a whole article could well be written, it should be said that some expenses are semi-fixed or semi-variable. A manufacturing company may have a power contract with a public utility company, which provides for a minimum charge of $1,000 per month, and the rate for electricity may decrease per kilowatt hour in step rates or brackets as more current is used. The minimum charge of $1,000 per month is a fixed expense since it must be paid regardless of the quantity of goods manufactured. The other portion of the power bill is a variable expense.

If proper unit costs are to be ascertained, the proper cost cycle must be selected. Most accountants are accus-

TABLE I
EFFECT OF PRICE CHANGE UPON NET PROFIT

Normal: Sales of 100,000 Units at $1.00 Per Unit. Investment of $200,000

		DECREASE		NORMAL	INCREASE	
(Costs 75% Fixed at Normal Volume)		20%	10%	VOLUME	10%	20%
COMPANY "C"	Sales	$80,000	$90,000	$100,000	$110,000	$120,000
	Variable Costs	21,000	21,000	21,000	21,000	21,000
	Marginal Balance	59,000	69,000	79,000	89,000	99,000
	Fixed Costs	63,000	63,000	63,000	63,000	63,000
	Profit	$ 4,000*	$ 6,000	$ 16,000	$ 26,000	$ 36,000
	Change in Profit	-125.00%	-62.50%		+62.50%	+125.00%
	Profit on Investment	2.00%*	3.00%	8.00%	13.00%	18.00%
	Break-Even Point In Sales $s	$85,424	$82,174	$ 79,747	$ 77,865	$ 76,364
(Costs 50% Fixed at Normal Volume)						
COMPANY "B"	Sales	$80,000	$90,000	$100,000	$110,000	$120,000
	Variable Costs	42,000	42,000	42,000	42,000	42,000
	Marginal Balance	38,000	48,000	58,000	68,000	78,000
	Fixed Costs	42,000	42,000	42,000	42,000	42,000
Refer to Chart I	Profit	$ 4,000*	$ 6,000	$ 16,000	$ 26,000	$ 36,000
	Change in Profit	-125.00%	-62.50%		+62.50%	+125.00%
	Profit on Investment	2.00%*	3.00%	8.00%	13.00%	18.00%
	Break-Even Point in Sales $s	$98,421	$78,750	$ 72,414	$ 67,941	$ 64,615
(Costs 25% Fixed at Normal Volume)						
COMPANY "A"	Sales	$80,000	$90,000	$100,000	$110,000	$120,000
	Variable Costs	63,000	63,000	63,000	63,000	63,000
	Marginal Balance	17,000	27,000	37,000	47,000	57,000
	Fixed Costs	21,000	21,000	21,000	21,000	21,000
	Profit	$ 4,000*	$ 6,000	$ 16,000	$ 26,000	$ 36,000
	Change in Profit	-125.00%	-62.50%		+62.50%	+125.00%
	Profit on Investment	2.00%*	3.00%	8.00%	13.00%	18.00%
	Break-Even Point in Sales $s	$98,824	$70,000	$ 56,757	$ 49,149	$ 44,211



tomed to compiling costs on the basis of a calendar year or some division thereof, such as the monthly, quarterly, or semi-annual period. Sometimes a longer period than a year is necessary to provide a complete cost cycle. Some pieces of equipment require shutting down and major repairs every eighteen months, in which event a single yearly cost statement is quite unsatisfactory for obtaining proper costs. In the case of marine transportation, the periodical four-year trips to dry dock, where extensive repairs may be made, will greatly influence costs unless proper reserves are provided for these repairs. These are not depreciation reserves, but are special reserves for dry docking or major repairs.

TABLES AND CHARTS

The three tables appearing on the following pages show the effect on profits of companies having different percentages of fixed and variable costs. Company "A" has fixed costs of 25 percent (variable costs of 75 percent), Company "B" has fixed costs of 50 percent, and Company "C" has fixed costs of 75 percent when operating at normal capacity. All three companies have the same net investment of $200,000 and their normal business consists of selling 100,000 units at $1.00 per unit, resulting in a profit of $16,000 each, or a profit of 8 percent on the net investment.

PRICE IS MOST POTENT FACTOR

Sometimes the "Captain" of an industry foolishly thinks (and sincerely believes) that a 10 percent increase in quantity (volume) of goods sold will offset a 10 percent decrease in price, and operates his business accordingly. Soon he finds that his "figuring on the cuff" method of budgeting or forecasting profits is "all wet." He is bewildered but does not know where the error is.

Table I shows the effect of price changes upon net profit. Chart I shows the effect of price changes for Company "B" which has fixed costs of 50 percent and variable costs of 50 percent at normal capacity of 100,000 units. It will be noticed that a 10 percent increase in price (with no change in quantity sold) increases the profit $10,000, which is a profit increase of 62.5 percent.

Table II shows the effect of volume (quantity) change upon net profit. Chart II is made from the figures of Company "B". It will be noted that for Company "B" a 10 percent decrease in price, as shown in Table I, the profit was decreased by $10,000 or 62.5 percent, whereas a 10 percent decrease in volume (quantity) decreases profit by only 36.25 percent, as shown in Table II. A study of the figures in Tables I and II will reveal that changes in prices will affect profits more than a similar change in volume, whether the company has fixed expenses of 25 percent, 50 percent, or 75 percent.

Therefore, selling price is more important than quantity sold as far as profits are concerned.

When a company's costs are 50 percent fixed and 50 percent variable at normal capacity (per Company "B" in Table I and II) an increase of 20.83 percent in quantity of goods sold is necessary to offset a 10 percent decrease in the unit selling price. If costs are 25 percent fixed and 75 percent variable,

TABLE II
EFFECT OF VOLUME CHANGE UPON NET PROFIT

Normal: Sales of 100,000 Units at $1.00 Per Unit. Investment of $200,000

		DECREASE		NORMAL	INCREASE	
(Costs 75% Fixed at Normal Volume)		20%	10%	VOLUME	10%	20%
COMPANY "C"	Sales	$80,000	$90,000	$100,000	$110,000	$120,000
	Variable Costs	16,800	18,900	21,000	23,100	25,200
	Marginal Balance	63,200	71,100	79,000	86,900	94,800
	Fixed Costs	63,000	63,000	63,000	63,000	63,000
	Profit	$ 200	$ 8,100	$ 16,000	$ 23,900	$ 31,800
	Change in Profit	-98.75%	-49.38%		+49.38%	+98.75%
	Profit on Investment	.10%	4.05%	8.00%	11.95%	15.90%
	Break-Even Point in Sales $s	$79,747	$79,747	$ 79,747	$ 79,747	$ 79,747
(Costs 50% Fixed at Normal Volume)						
COMPANY "B"	Sales	$80,000	$90,000	$100,000	$110,000	$120,000
	Variable Costs	33,600	37,800	42,000	46,200	50,400
	Marginal Balance	46,400	52,200	58,000	63,800	69,600
	Fixed Costs	42,000	42,000	42,000	42,000	42,000
Refer to Chart II	Profit	$ 4,400	$10,200	$ 16,000	$ 21,800	$ 27,600
	Change in Profit	-72.50%	-36.25%		+36.25%	+72.50%
	Profit on Investment	2.20%	5.10%	8.00%	10.90%	13.80%
	Break-Even Point in Sales $s	$72,414	$72,414	$ 72,414	$ 72,414	$ 72,414
(Costs 25% Fixed at Normal Volume)						
COMPANY "A"	Sales	$80,000	$90,000	$100,000	$110,000	$120,000
	Variable Costs	50,400	56,700	63,000	69,300	75,600
	Marginal Balance	29,600	33,300	37,000	40,700	44,400
	Fixed Costs	21,000	21,000	21,000	21,000	21,000
	Profit	$ 8,600	$12,300	$ 16,000	$ 19,700	$ 23,400
	Change in Profit	-46.25%	-23.13%		+23.13%	+46.25%
	Profit on Investment	4.30%	6.15%	8.00%	9.85%	11.70%
	Break-Even Point in Sales $s	$56,757	$56,757	$ 56,757	$ 56,757	$ 56,757

it is necessary to increase the quantity of goods sold by 37.04 precent to offset a 10 percent decrease in the unit selling price.

BREAK-EVEN POINTS VARY

The amount of sales necessary to break-even, i.e., point at which there will be neither profit nor loss, is ascertained by dividing the dollars of fixed expenses by the marginal balance (sales price less variable cost per unit).

Example: Chart I shows Company "B" at normal volume has fixed expenses of $42,000. The unit selling price is $1.00 and the variable costs are 42¢, resulting in a gross margin (sometimes called contribution toward profit) of 58¢ per unit. Accordingly, the $42,000 ÷ 58¢ = 72,414 units of sales necessary to break even. To ascertain the sales dollars necessary to break even, multiply the number of units by the selling price.

INVERSE CHANGES OF PRICE AND VOLUME

Table III and Chart III show the effect of inverse changes of price and volume (quantity) of goods sold on profits. It will be noted that Company "B" (with 50 percent fixed costs at normal volume) may increase profits by decreasing the volume if a corresponding increase in price can be obtained; but that profit decreases if the volume of goods sold increase is accompanied by a corresponding decrease in price.

Table III and Chart III again emphasizes that selling price is more important than quantity sold, profitwise.

Chart IV is familiar to all good accountants. It shows graphically the paradox that total fixed costs become variable cost per unit and total variable costs become fixed costs per unit.

EFFECT OF VOLUME CHANGE UPON NET PROFIT
(FIXED COSTS 50% OF TOTAL AT NORMAL VOLUME)
(ANNUAL BASIS)

CHART II

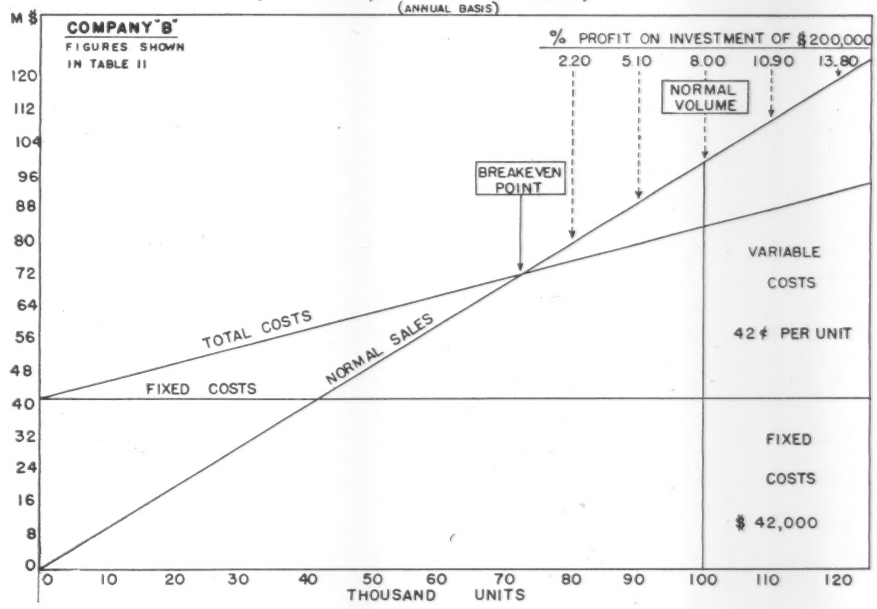


TABLE III
EFFECT OF INVERSE CHANGES OF PRICE AND VOLUME UPON NET PROFITS

Normal: Sales of 100,000 Units at $1.00 Per Unit. Investment of $200,000

		VOLUME DECREASE & PRICE INCREASE 20%	VOLUME DECREASE & PRICE INCREASE 10%	NORMAL VOLUME	VOLUME INCREASE & PRICE DECREASE 10%	VOLUME INCREASE & PRICE DECREASE 20%
(Costs 75% Fixed at Normal Volume)						
COMPANY "C"	Sales	$96,000	$99,000	$100,000	$99,000	$96,000
	Variable Costs	18,800	18,900	21,000	23,100	25,200
	Marginal Balance	79,200	80,100	79,000	75,900	70,800
	Fixed Costs	63,000	63,000	63,000	63,000	63,000
	Profit	$16,200	$17,100	$ 16,000	$12,900	$ 7,800
	Change in Profit	+1.25%	+6.88%		-19.37%	-51.25%
	Profit on Investment	8.10%	8.55%	8.00%	6.45%	3.90%
	Break-Even Point in Sales $s	$76,364	$77,865	$ 79,747	$82,174	$85,424
(Costs 50% Fixed at Normal Volume)						
COMPANY "B" Refer to Chart III	Sales	$96,000	$99,000	$100,000	$99,000	$96,000
	Variable Costs	33,600	37,800	42,000	46,200	50,400
	Marginal Balance	62,400	61,200	58,000	52,800	45,600
	Fixed Costs	42,000	42,000	42,000	42,000	42,000
	Profit	$20,400	$19,200	$ 16,000	$10,800	$ 3,600
	Change in Profit	+27.50%	+20.00%		-32.50%	-77.50%
	Profit on Investment	10.20%	9.60%	8.00%	5.40%	1.80%
	Break-Even Point in Sales $s	$64,615	$67,941	$ 72,414	$78,750	$88,421
(Costs 25% Fixed at Normal Volume)						
COMPANY "A"	Sales	$96,000	$99,000	$100,000	$99,000	$96,000
	Variable Costs	50,400	56,700	63,000	69,300	75,600
	Marginal Balance	45,600	42,300	37,000	29,700	20,400
	Fixed Costs	21,000	21,000	21,000	21,000	21,000
	Profit	$24,600	$21,300	$ 16,000	$ 8,700	$ 600*
	Change in Profit	+53.75%	+33.13%		-45.62%	-103.75%
	Profit on Investment	12.30%	10.65%	8.00%	4.35%	.30%*
	Break-Even Point in Sales $s	$44,211	$49,149	$ 56,757	$70,000	$98,824

* Denotes Red Figure (Loss)

CONCLUSION

The principal purpose of this article has been to demonstrate that price is a more important factor than quantity or volume of goods sold under the conditions described. It is hoped that the remarks pertaining to the division of costs into the fixed and variable elements will stimulate interest in this direction, so that those controllers who have not yet separated their costs accordingly will give serious consideration to it. This knowledge is a valuable tool to management, if properly used. When a controller has this information concerning his company, he is in a position to forecast the result of any contemplated change in the business. He knows the "why" of profit changes.

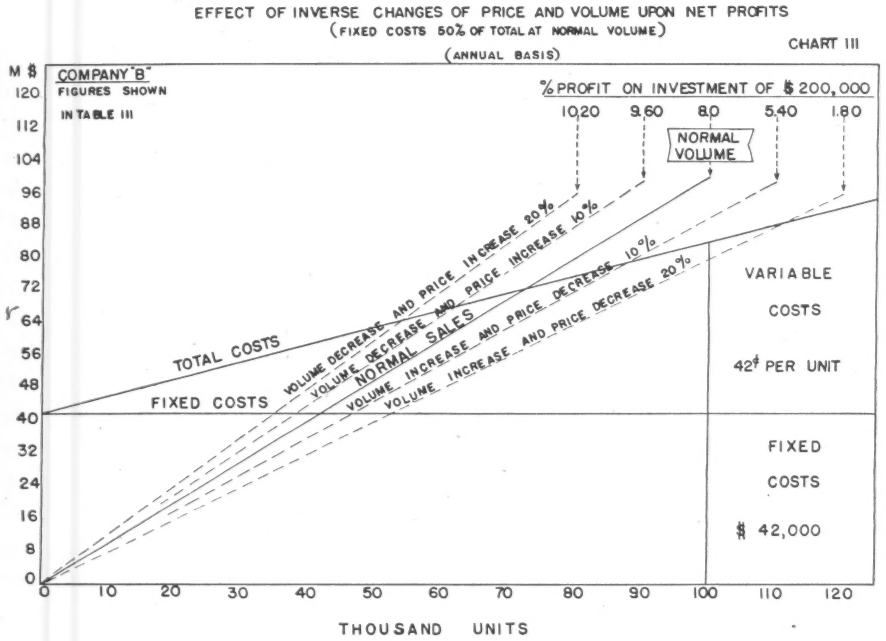
When fixed and variable expenses have been separated, the controller can prepare "break-even" charts for the business showing the results of changes in selling prices, raw material costs, manufacturing, and selling expenses, whether they happen one at a time or in combinations. As shown in Chart II, the profit on investment can readily be ascertained for any quantity of goods sold at any predetermined selling price. Expressed otherwise, the profit (or loss) can be predetermined with the same de-

gree of accuracy that other facts of the business are known.

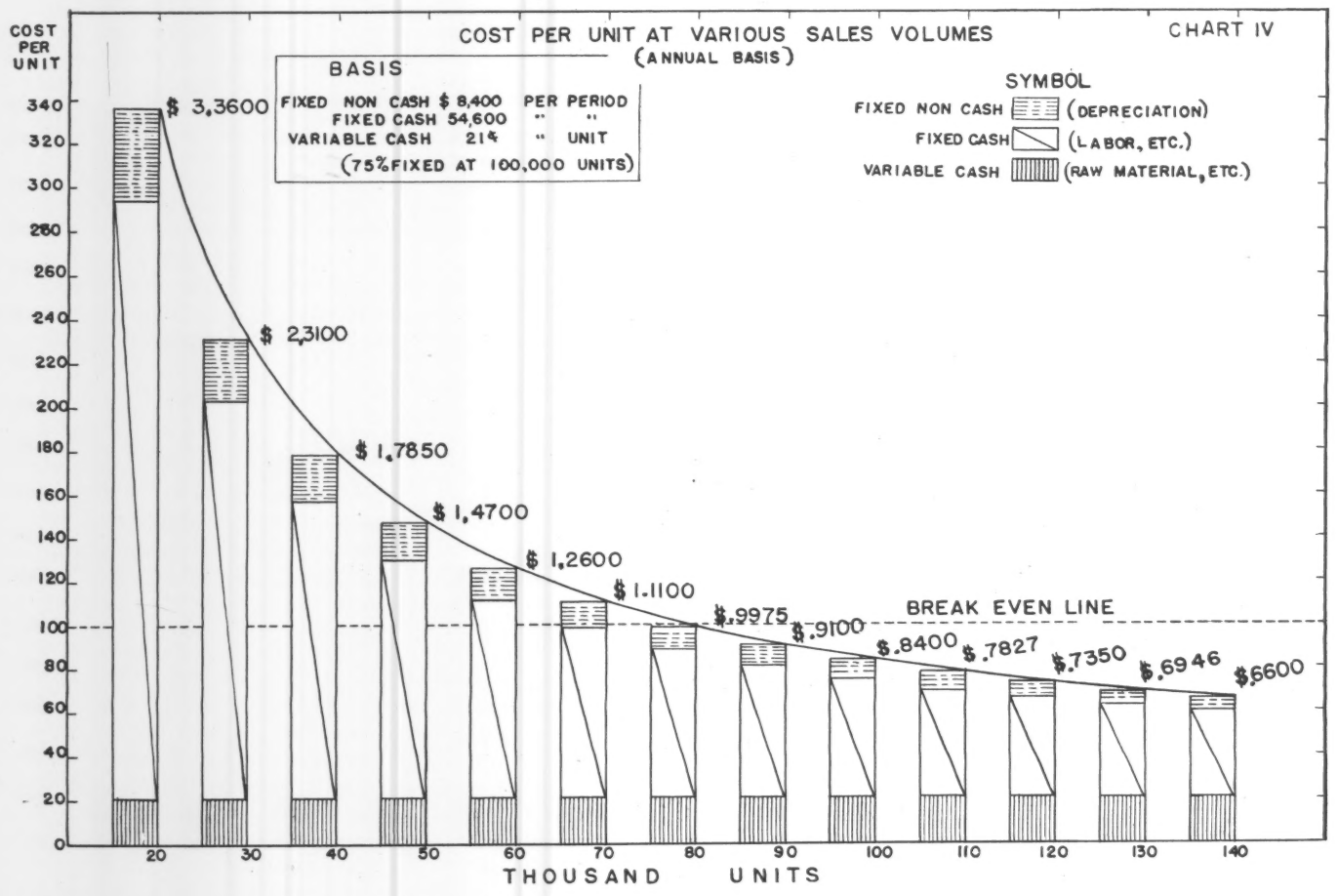
There are no secrets about how to do it, and no complicated mathematical formulas are involved—just plain arithmetic. Executives who will not read or listen to volumes of figures are frequently fascinated by the "break-even" charts.

Did the late John D. Rockefeller have this principle in mind when, many years ago, he said:

"I knew where I stood at the close of every business day. I charted my course by figures, nothing but figures. I never felt the need of scientific knowledge, have never felt it. A young man who wants to succeed in business does not require chemistry or physics. He can always hire scientists. No, he should study figures, figures, figures, and apply them to his business. What does he intend to sell or manufacture and how many will buy his product? Let him first take paper and pencil and study his market and its possibilities. Figures come first, always."



Emphasis is on *selling price* more than quantity sold.



Illustrating the paradox that total fixed costs become variable cost per unit and total variable costs become fixed costs per unit.

PRODUCTIVITY is the key to low cost operation. The more product turned out per man-hour, the lower the cost, and reducing the cost per unit of product is the primary objective of cost control.

Our ability to increase productivity and, as a result raise our standard of living, is the one thing that has set our country ahead of all the others.

What about the future? Will we do as well or better in the next thirty or forty years? Some insight into management's thinking can be gleaned from "The Executive Forecast" published by Fortune in January of 1949. This forecast showed that management expected productivity to change as follows:

Increase	18%
Stay same	70%
Decrease	11%
No estimate	1%

Thus, while 40% of the executives expected their own sales to decrease, 53% expected lower profits and 57% had already experienced lower backlogs of orders. All are interesting figures but nowhere near as significant as the fact that 70% of the executives could see no improvement coming in labor productivity and 11% even expect it to be lower. This type of thinking is not the kind that has made the United States of America the envy of the world.

The trend toward lower costs has been reversed substantially during recent years due principally to the void existing after the war. Productivity and costs in many cases have been secondary considerations in our efforts to get out production. Now that the excessive demand for any and all products is satisfied we are once again confronted with a need for simultaneously bringing prices back into line and improving quality and service.

The sum total of these conditions emphasizes the need "For driving with a tighter rein"—for better control of plant operations. Better control of the flow of material through the plant is needed in order to operate with reasonable inventories and, at the same time, reduce the processing cycles to provide quicker and more reliable deliveries. Better control of costs is a must in order to maintain profitable operations as price and volume recede.

Yardstick No. 1—The Standard Hour of Production is the cornerstone for effective Cost Control. A fresh look at an old subject that many talk about but few do anything about.

BASIS FOR COST CONTROL

Effective control of plant operations and costs, however, does not consist in informing the top executives by word of mouth of all of the details and all of the reasons and alibis for any unfavorable results or the lack of accomplishment and progress. Nor does it mean accumulating an elaborate set of historical records periodically to determine where the money went. Instead, it implies establishing several soundly conceived current control figures that the top executives can use to gauge the progress being made and to direct activities, while the burden of controlling the details is placed directly on the foremen and departmental supervision.

For example, the control of costs consists in having a Standards Department that analyzes the details and tells you what the costs should be in relation to volume; a Cost Department that tells you currently what the costs actually are; and a supervisory force that fully understands the important part it plays and can tell you what actions are already underway to bring actual costs in line with the standards.

Under such an arrangement, the time standards developed for wage incentive are the most important single control since they should serve as the foundation upon which the entire cost structure for the plant is built. If the time standards are used only as a basis for paying incentive to employees then only a fraction of their value is being utilized.

In my opinion, the Standard Minute or Hour of Production is the best common denominator that can be used reliably for reporting cost and production figures for comparative and control purposes. Of course, if the production consists only of filling barrels with one grade of oil and the barrels are all the same size, then a barrel might be considered a unit of measurement, and cost and production could be reported in terms of barrels of oil. However, since most plants make a variety of products involving many diversified parts and operations, performed in several departments or divisions, this type of control is entirely inadequate. In most cases, the Standard Minute or Hour of Production, which should define a specific amount of work, is the only common denominator that can properly evaluate each of the several products, and the operation of the departments or divi-

sions. It represents a specific amount of work expended in transforming materials into saleable products. It has stability and will not change over a period of time since it is not affected by efficiency of performance, changes in wage rates, nor price fluctuations caused by competitive conditions.

Sales dollars, labor dollars, labor hours, tonnage, etc., are all possibilities as common denominators, but denominators of this type are liable to be as variable, if not more so, than the cost to be controlled. For example, in the case of actual direct labor hours, there is no reason for any constant relationship to exist between the actual time taken and the amount of work produced. Added to this, the actual direct labor hour is distorted frequently due to absorption of waiting, rework, scrap, extra operations and indirect work in this time. The actual direct labor dollar is even more variable since, in addition to the short-comings of the actual direct labor hour as a basis for distributing various overhead items, there are added the effects of general wage increases and merit increases.

DIRECT STANDARDS

When the importance for having a sound common denominator is understood, we begin to appreciate more fully the value of good time standards. Good time standards are obtained by following good measurement practices. In general these require

1. That the time standards be consistent.
2. That the cost of setting time standards be a minimum with high coverage on both repetitive and non-repetitive work.
3. That adequate records be prepared in such a manner as to be readily explained at any time.

The need for consistent time standards takes on added significance when they serve as a basis for incentive, and for the control of plant operations and costs; for establishing overhead rates, budgets and selling prices; for planning and scheduling production; for indirect and supervisory incentives; for fact findings for many managerial decisions; and for properly allocating costs to lines of products.

INDIRECT STANDARDS

It is now generally accepted in industry that direct labor can be measured and the trend is toward greater use of time standards for indirect labor. The best control and the lowest costs come from direct measurement of work, both direct and indirect. Many indirect costs can be measured directly, for example, toolroom work, some forms of maintenance work, material handling, packing, office work, timekeeping, some inspection routines, training, etc. The problems in these cases are similar to those encountered with direct work except that the administration may be somewhat more involved.

Where for good reasons, the application of direct standards to indirect work is not economical, for example on supervision and on some clerical work, usually a relationship between the indirect work and cost and the volume of production in the department or plant can be developed. These relationships should be established from time studies and detailed analyses.

Finally, where the problem is very complex or the amount of indirect cost is small, as sometimes occurs for example in the case of supplies and machine maintenance, budgeting is used. Budgeting consists of using historical costs and developing a relationship between these costs and the volume of production. In establishing budgets, the old costs should be analyzed thoroughly and corrections and adjustments should be made as required to finally determine the proper historical relationship between cost and volume. The only justification for resorting to historical records lies in the thesis that any form of control is better than no control.

REPORTING

We all appreciate the need for proper timekeeping, I think, in conjunction with wage incentives since it is obvious that the value of good time standards is lessened by unreliable timekeeping. The same holds true for all elements of cost. Reliable allocation of changes at the source is required to maintain control. This immediately adds new importance to the timekeeping functions and requires that the timekeepers and the supervisors thoroughly understand the several accounts that have been established and the need for conscientiously reporting charges properly. The use of "miscellaneous" as a catch-all should not be tolerated nor should waiting time, extra operations, rework, material handling, etc., be charged against the production orders as direct labor. Control is being exercised only when the excess costs are known and corrective action is taken to reduce and ultimately eliminate the excesses.

CONTROL

Earlier, some mention was made that the elements of good cost control require the use of several soundly conceived control figures. Included in this group might be the average percent performance of the incentive operators in the department, the percent of direct work on standard, the percent capacity used, the percent of direct labor excess costs, the percent of indirect excess costs, and the percent total excess costs. The most significant control figures, however, are those related to the cost per standard hour of production, for example:

Cost Per Standard Hour of Production

Period	*Direct Labor*	*Direct Labor Excess*	*Indirect*	*Total*
Reference	1.66	.00	.45	2.11
Current	1.20	.05	.34	1.59
Standard	1.11	.02	.28	1.41

In this illustration, the figures for the reference period show what the costs were in terms of output prior to the installation of standards and controls. These figures show management where the costs once were and where they may return to if the program is not administered properly on a continuous basis. The standard figures indicate what is expected. A comparison of the current figures with the reference and the standard costs portrays the progress made to date and, also, what remains to be accomplished.

The point to be made here is that some reliable tools of measurement of indirect as well as direct costs are needed if the ultimate in cost reduction is to be accomplished. And such a program should set up definite objectives and the means by which they can be checked currently for progress toward attainment. The result of this procedure

should be to highlight all points where costs can be reduced.

MATERIAL STANDARDS

Up to this point, the emphasis has been on the control of labor costs. Equal importance should be given to the cost of materials used, both directly and indirectly in the manufacture of the products. Raw materials, purchased parts, supplies, tools, fuel, power, steam and other expenses can contribute a large part of the cost depending upon the products being made. Here, also, standards should be developed so that current material costs can be compared to soundly conceived objectives.

It may not be possible always to control the price that must be paid for materials. However, it is possible to effect substantial reductions in the cost of materials by reducing consumption through control of yield, scrap and usage. For example, in the manufacture of slide fasteners the metal scoops are attached to a piece of tape. The tape is a relatively expensive item and any saving in tape is highly desirable. The operator of the machine can obtain a better yield of the tape by making proper machine adjustments and by giving closer attention to the operation. In one case the application of standards and incentive to this operation improved the tape yield from 83% to 91% in a matter of weeks, a decrease of 8.7% in tape cost.

INCENTIVES

Good measurement is the foundation for the control of plant operations. It is the basis for incentive—for properly rewarding employees and supervisors in relation to their individual achievements. Incentive means paying top money for top performance. For two reasons, incentive is necessary in order to make the controls fully effective. First, it is one of the most effective means of obtaining a high level of productivity, which brings about lower costs. Secondly, the day to day fluctuations in production and costs are reduced under good incentive as compared with output where employees are paid only for the time they put in.

PRODUCT COSTS

The need for reliable product costs derived from the proper allocation of direct labor, material and overhead to the various products is essential if the management is to know which lines are profitable and how far prices can be reduced to meet or better competition. Further, proper product costs are required so that the management can anticipate the ultimate effect of either a gradual or a sudden shift in sales volume between products. Think of the possible effect on profits and on plant operations of such a shift in a plant producing only two lines of product, one consisting of 80% labor and 20% material while the other is made up of 20% labor and 80% material. Your imagination certainly, and possibly your experience, must tell you that even though sales volume in dollars remained constant, a shift in sales from one product to the other without a full realization of the consequence might have very serious repercussions throughout the plant. The ultimate in cost control then, is to reduce the cost per unit of product and at the same time provide the management with a correct cost picture.

UNDERSTANDING

One word of caution. Don't expect to install a modern cost control plan in your plant and get results without training and developing your organization to the point where it can understand the plan and can operate it. The job isn't quick and it isn't easy. But I can assure you that the advantages to be gained make it worth the effort. This thought is best expressed to my mind by the phrase "Don't put airplane gasoline in an automobile." During the last war a friend of mine was a Lt. Colonel. He had a jeep at his disposal. One day someone, probably my friend, got the bright idea to put high octane gasoline, the kind used in airplanes, into the jeep. The expectations were great, the results very disappointing. The jeep kicked and balked and finally boiled over — it couldn't take it. But, as we know, if the jeep had been designed and developed to use high octane gasoline then, and only then, could it be expected to give the advantages of more miles per gallon, added power and faster and smoother response.

OPPORTUNITY

The opportunities for increasing productivity, for better profits, for increasing our standard of living are right here in your plants. To fully realize those objectives good cost control is one of the tools you need. Studying the subject, knowing all about it, understanding cost control is not enough—it must be used and it must be used well.

STANDARD COST SHEET — ASSEMBLY MODEL NO. WW-2 ASSEMBLY NO. A 13-244

DESCRIPTION Water pump body with 2 bushings STANDARD QUANTITY 200

COST SUMMARY

Date	Material	Labor	Burden	Total
12-31-43	.70	.3396	.5877	1.6273

PARTS & SUBASSEMBLIES

Part No.	Req'd	UNIT COST M	UNIT COST L	UNIT COST B	TOTAL M	TOTAL L	TOTAL B
13-244	1	.60	–		.60	–	–
11-127	2	.05	.0121	.0182	.10	.0242	.0364
					.70		

COST SUMMARY

Date	Material	Labor	Burden	Total

OPERATIONS

Dept.	Op. No.	Standard Min. Set Up	Standard Min. Cycle	Job Class	Labor	Burden	Cum.
56	5	90	10.2	6	.1385	.2770	.4155
58	10	18	.7	5	.0095	.0143	.4393
58	15	12	1.5	4	.0172	.0258	.4823
60	20	18	8.0	4	.0890	.1424	.7137
58	25	12	1.5	4	.0172	.0258	.7567
58	30	–	1.8	3	.0180	.0270	.8017
58	35	12	2.3	4	.0260	.0390	.8667
					.3154	.5513	

(McGraw-Hill illustration from Cost Accounting, by J. H. March)

Standard Costs based on the Standard Hour of Production are the best common denominator for effective evaluation of results.

Private Enterprise Regained

I AM indebted to Betty Knowles Hunt for sending me a column she contributed to The New Hampshire Morning Union quoting from Governor Bradford's own history of the Plymouth Bay Colony over which he presided. It is a story that deserves to be far better known, particularly in an age that has acquired a mania for socialism and Communism, regards them as peculiarly "progressive" and entirely new, and is sure that they represent "the wave of the future."

Most of us have forgotten that when the Pilgrim Fathers landed on the shores of Massachusetts they established a Communist system. Out of their common product and storehouse they set up a system of rationing, though it came to "but a quarter of a pound of bread a day to each person." Even when harvest came, "it arose to but a little." A vicious circle seemed to set in. The people complained that they were too weak from want of food to tend the crops as they should. Deeply religious though they were, they took to stealing from each other. "So as it well appeared," writes Governor Bradford, "that famine must still insue the next year allso, if not some way prevented."

SO the colonists, he continues, "begane to thinke how they might raise as much corne as they could, and obtaine a beter crope than they had done, that they might not still thus languish in miserie. At length [in 1623] after much debate of things, the Gov. (with the advise of the cheefest amongest them) gave way that they should set corne every man for his owne perticuler, and in that regard trust to them selves . . . And so assigned to every family a parcell of land . . .

"This had very good success; for it made all hands very industrious, so as much more corne was planted than other waise would have bene by any means the Gov. or any other could use, and saved him a great deall of trouble, and gave farr better contente.

"The women now wente willingly into the feild, and tooke their litle-ons with them to set corne, which before would aledg weakness, and inabilitie; whom to have compelled would have bene thought great tiranie and oppression.

"The experience that was had in this commone course and condition, tried sundrie years, and that amongst godly and sober men, may well evince the vanitie of that conceite of Platos and other ancients, applauded by some of later times;—that the taking away of propertie, and bringing in communitie into a comone wealth, would make them happy and florishing; as if they were wiser than God. For this comunitie (so farr as it was) was found to breed much confusion and discontent, and retard much imployment that would have been to their benefite and comforte.

"For the yong-men that were most able and fitte for labour and service did repine that they should spend their time and streingth to worke for other mens wives and children, with out any recompense. The strong, or man of parts, had no more in devission of victails and cloaths, than he that was weake and not able to doe a quarter the other could; this was thought injuestice . . .

"And for men's wives to be commanded to doe servise for other men, as dressing their meate, washing their cloaths, etc., they deemd it a kind of slaverie, neither could many husbands well brooke it . . .

"BY this time harvest was come, and instead of famine, now God gave them plentie, and the face of things was changed, to the rejoysing of the harts of many, for which they blessed God. And the effect of their particuler [private] planting was well seene, for all had, one way and other, pretty well to bring the year aboute, and some of the abler sorte and more industrious had to spare, and sell to others, so as any generall wante hath not been amongest them since to this day."

The moral needs no elaboration.

Henry Hazlitt—*Newsweek*

PLAN NOW TO ATTEND . . .

THE 1950 TIME STUDY AND METHODS CONFERENCE

April 20, 21, 1950

Hotel Statler, New York

New Material **Vital Subjects** **Practical Applications**

The last word on —
Time Study and Standards
Incentives and Wage Administration
Methods

New Concept of A Fair Day's Work

by HAROLD R. NISSLEY
Industrial Relations Division, Lampt Dept.
General Electric Company
Cleveland, Ohio

Where is the happy medium between the "speed demon" and the "job-stretcher?"

"KEEP it simple." "What is normal effort?" "You can't tell by looking at a person how fast he is working." These are just a few of the pleas, questions and affirmations of unions and management alike in their quest for minimizing grievances and each getting its just due.

KEEP IT SIMPLE

To those who insist upon a residue statement as "A fair day's wages for a fair day's work" the writer has little quarrel except in the practical application of this simple hypothesis. When, for example, labor is asked how many hours of work they expect to do for eight hours of pay, the answer usually is eight hours. But when pinned down it is always less than eight hours (less by at least the many allowances such as personal, waiting time, fatigue, etc.). Likewise, management frequently points to a "speed demon" and says: "If John can keep up this pace for eight hours, then all the rest of you can."

Thus in an attempt to over-simplify these things, eye-to-eye seeing is impossible. The fact that industrial engineering staffs have tripled in the last ten years is clear indication that neither management nor labor can lightly brush aside the fact that what has come to be accepted as a fair day's work may vary by as much as 50 per cent within the same department; and when one goes from factory to factory, the percentage difference in worker effort is frequently even greater.

It will not be the purpose of this article to explain the cause of these wide differences in worker effort except to say that they arise in most cases from abuses and ignorance of both management and labor: The abuses of management in the past in arbitrary rate cutting; and the ignorance of management in attempting to simplify such a complex variable as a fair day's work; the abuses of labor (past and present) in attempting to fool management before rates became permanent; and the ignorance of labor in accepting the "lump of labor theory" [1] and other deterents to efficiency in the belief that somehow labor will be better off if they peg their production or actually slow down on the job. An examination of all of these points of view proves them fallacious. Happily management has learned much in the last fifteen years; and labor is rapidly maturing, too.

In conclusion it can be said that simplicity in such matters as a fair day's work is difficult to maintain if accuracy under different operating conditions is to be maintained within tolerance limits of plus or minus 10%. "In our work we are surprised that so much of the past development by outstanding engineers seems to have been forgotten. The current drive to 'keep it simple' has resulted in standards set for somewhere between 'low task' and 'high task' being used on a one-for-one basis on the present 'high task' base rates with disastrous results. It seems that a plan must be designed for a problem, and the answer cannot always be simple."—from a letter to the author by Mr. Carl T. Dunn.

"WHAT IS NORMAL EFFORT?"

This is a question that is often asked in the conference room and at professional society meetings. Unfortunately seldom is a lucid definition or explanation given. The reason for this lack of clear-cut understanding is few people take the trouble to break such a concept down into its components.

Only in the last five years, for example, there has developed two concepts of normal effort. One of these is a day-work concept; the other is a piece-work or incentive concept. The first is a slow-pace concept or a beginner's pace; the second is the brisk pace [2] of an experienced incentive operator. In the first, the operator after going on incentive and after achieving a high degree of skill, will be able to increase his productivity from ten to fifty per cent and in extreme instances by as much as 150 per cent [3]; in the second the normal operator cannot go much faster without undue or cumulative fatigue or without additional job simplification which he or management may undertake after a permanent standard is established. One of the big causes of "incentive creepage" is hasty setting of job standards before short-cuts have been worked out. This is often another example of management's desire to "keep it simple"—get the job done without too much fooling around. Obviously if a job is time studied on a one-handed basis and the worker discovers he has another hand that he can

[1] The "lump of labor theory" advanced by one of the classical economists over a century ago and strongly adhered to by many labor unions means this: The amount of work to be done in a given factory or industry remains constant; any worker or group of workers, therefore, who work harder than necessary to keep their jobs really work their way out of jobs—they "kill the job."

[2] This brisk pace is called "high task" by Professor Charles W. Lytle in his book, *Wage Incentive Methods*, Ronald Press, 1929 and 1942.

[3] Except in the case of new jobs it is interesting to note that most of these percentage increases are not due to any speeding up of the operator after he is put on incentive. Rather it is due to more constant application—more of his time during his work day actually spent in working. Thus the company puts to work a silent monitor when it puts a worker on incentive—a monitor who is more diligent and more conscientious than any foreman: The selfish motivation of a person to get all he can out of a job or a company.

put to work increasing his productivity from twenty to fifty per cent, he is going to employ his "free" hand. Under such circumstances it would be better for all concerned to give this worker a liberal suggestion award (based on a percentage of the first year's savings) and re-establish a new rate because of an obvious change in method. And such changes show the necessity for carefully defining the conditions under which the original time study or rate was established: Hands used; distances traveled; break-off points; machines and materials used; etc.

Whereas at one time (before World War II) most industrial engineers followed the day-work concept of normal effort now there is a growing tendency for the larger firms and a growing number of engineers to use the faster incentive concept. There are several reasons for this change which the writer will not go into here. It is enough to say that the final total pay of the worker under either concept of normal is pretty much the same so no one gets hurt in this shift in base-line thinking.

Having established at least one fact about normal effort—that there are two accepted concepts of it—let us examine more closely what is meant by "normal effort" when an engineer speaks of it. "Normal effort" may be defined as "the effort (skill and *energy*) that an experienced worker puts into a job. This experienced worker cannot be any experienced worker; he must be an experienced worker who in the judgment of the time study engineer is putting forth good effort while employing to the best advantage tools and equipment provided him."

Although not perfect, one definition of a fair day's work (normal effort) is one which was used by the chief industrial engineer of a large steel company in an arbitration case:

"A fair day's work for which *normal incentive compensation* is paid is the amount of work which can be produced by *an average qualified employee* through *the most effective use of effort, materials, and equipment* while working a *normal incentive pace* during all portions of the work day other than that which is required for normal rest.

"*Normal incentive compensation* is a figured percentage of the established base rate, and it is usually about 25 per cent. In other words, for incentive performance, the Company pays a premium over the base rate which is a regular established hourly rate for the job.

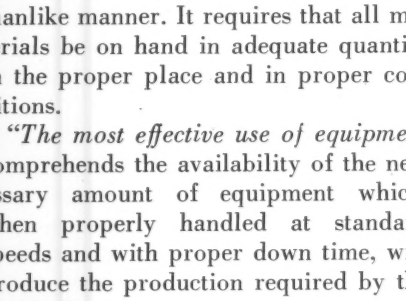
"*An average qualified employee* is a man who has been working on a given class of work long enough to have acquired the necessary skill and knowledge, one who is fitted for the work by nature, and one who possesses the required intelligence and education to perform satisfactorily the work at hand.

"*The most effective use of effort* comprehends the efficient application of the employee's effort according to proper methods. For example, job elements which can be performed while the machine is running should be so performed rather than to perform them while the machine is down. A further example is that all the job elements in the cycle of production must be performed in the established sequence and manner.

"*The most effective use of materials* comprehends the proper handling and use of both processed and processing material. Tools, lubricants, and supplies must be used in the established workmanlike manner. It requires that all materials be on hand in adequate quantity in the proper place and in proper conditions.

"*The most effective use of equipment* comprehends the availability of the necessary amount of equipment which, when properly handled at standard speeds and with proper down time, will produce the production required by the standards.

"*The normal incentive pace* comprehends the proper handling of machine and tools at the maximum pace that can be maintained over the working day without harmful effects. The correct pace is established by trained time-study observers using as reference or standards the pace that experience over a long period on similar equipment and tools indicates is possible."



Judgment of machine speed can be confirmed with a speed indicator. Can effort be accurately rated?

Thus the crux of "normal effort" lies in the judgment of an engineer; the ability of that engineer to "speed-rate" a worker.

SPEED-RATING AND ACCURACY

With normal effort now hinging upon a speed-rating judgment factor, the question naturally arises how accurate can an engineer speed-rate a worker?

This question in turn poses some interesting inquiries: (1) How accurate do you want this speed-rating? (2) What are the qualifications of the engineer doing the speed-rating?

The fact that speed cops can judge accurately the speed of motorists traveling between forty and eighty miles an hour is evidence that fair accuracy can be achieved judging speed—accuracy that is within tolerances of plus or minus ten per cent. Most foremen who constantly check the speeds of their machines with stop watches and tachometers get so they can tell the speed of a machine well within a ten per cent tolerance without the benefit of a watch or speed indicator (the reason they continue to use indicators is most of them wish to reduce this tolerance down to plus or minus one or two per cent). There is no question, then, but what speeds can be judged accurately if the required tolerances are not too narrow.

But note the above speeds are judged by speed experts—men who have speed measuring devices in their hands practically every day. And these speed experts are expert only in their particular speed ranges. A foreman in looking at a motor running 1750 r.p.m. might "guess" the speed to be 1700 but when asked to judge the speed of a motorist doing 75 miles an hour he might guess 60 miles or even 90 miles; the speed cop who might laugh at such a wild guess would be surprised how far he was off in trying to judge the speed of the 1750 r.p.m. motor (at say 1000 r.p.m. or 5000 r.p.m.).

In much the same manner an experienced time study engineer can usually

"guess" within ten per cent tolerance limits the speed rating of individual workers. And the more experience he has had in speed rating workers, the closer he comes to actual performance rating most of the time.

But is it not expecting too much of the engineer to say with certainty that a worker or a small group of workers will average the production rate he sets? Does not such a position presuppose that all workers are of equal ability—or willingness to work? In other words, when the well trained industrial engineer sets a production standard he in effect says: "If there were 1,000 workers on this job and conditions remained unchanged—methods, materials, tools, etc. —then 500 of these 1,000 workers would produce within plus or minus ten per cent of the standard I have just set; 200 would produce from ten to twenty per cent more than the standard I have set; another 200 would produce from ten to twenty per cent below the standard I have set; 50 would jump out ahead by from twenty to forty per cent above my standard (or the group average); and another 50 would drop to less than twenty per cent under my standard or the average of the group (a few of these 50 might even go to sixty per cent of standard)."

Obviously there are few jobs in American business today employing 1,000 people on identical work. But there are any number of incentive shops having 1,000 or more people on incentives. So the same reasoning can be employed as above even though the jobs and the hourly production standards may differ. Thus, if the average incentive pay for a shop is pre-determined at $1.00 and the shop average turns out to be $1.03 or $1.05 a pretty good industrial engineering job has been done.[4] But where the shop average is $1.25—twenty-five per cent higher than was anticipated—the industrial engineering staff should have a pretty good story for management and the union.

Where this has happened as in the Colt Arms Company during the war, management has been mostly to blame. In this Colt Arms case incentive workers were taking home from $6,000 to $12,000 per year (compared with the $3,000 to $5,000 yearly (frozen) salaries of foremen). It would seem that the union would be happy when its workers are getting $1.25 an hour instead of $1.00 which the company has agreed to. Imagine the state of mind of the steward of the hourly rated toolmakers employed by Colt—toolmakers who might have had a job classification of 12 compared with a number 1 or 2 rating of piece workers but whose wages were less than half those of the piece workers!

PRACTICAL APPROACH TO NORMAL EFFORT

Because normal effort up to recently has been the province of trained industrial engineers—usually one engineer—much distrust and misunderstanding has resulted. As a result several methods have been used to remove this suspicion and distrust:

1. *Joint selection of operator(s) to be time studied* by both foreman and union steward. The engineer under such a set-up should make clear the qualifications for a normal operator. *If* a mutually agreed upon normal worker can be found doing the job in question in the best prescribed manner and *if* this operator's cooperation can be enlisted during the time study (or studies where greater accuracy than plus or minus 10% is desired), an ideal situation exists.

2. *Pace-rating experiments of walking and card dealing* have been developed for foremen and union officers. These are designed to give those in "official" capacity some idea of what normal effort is and particularly changes in pace.

3. *Filming certain key jobs and group rate these jobs.* The movies of these jobs are usually taken at standard speeds even though it is later agreed that the operator was working above or below "normal." By changing the speed of the projector from say 1000 frames per minute (r.p.m.'s) abilities to detect changes in pace can be measured; thus if the group rates an operator as a 90 per cent operator and the projector is speeded up from 1000 frames per minute to 1100 frames, a perfect rating score would be 99 per cent; and the foreman who rated such a performance at 120 per cent would be 21 per cent loose.

4. *Filming certain common tasks such as walking.* The steel companies spent $50,000 for a film to define one paragraph in their union contract — normal effort! This film concentrates to a great extent on the common task of walking using three walking speeds (thus making it unnecessary to change the speed of the projector: 70 per cent of normal; 100 per cent; and 130 per cent). The film is intended for use to train non-technical people — foremen, stewards, and even some operators — in pace recognition.

CONCLUSIONS

Anyone insisting upon keeping the concept of a fair day's work simple is asking for all sorts of loopholes. It is easier to define a fair day's wage; for this can be arrived at by comparison of similar competitive jobs in the community.

It is possible to arrive at a fair day's work figure on a given job if enough time is permitted. As with most other operating problems the time and money spent in getting a production figure will be a compromise in most cases. For short run jobs or jobs in which the labor content is low, accuracy will be sacrificed for expediency. For continuous run jobs or jobs involving a large number of workers not only should high grade industrial engineering talent be employed but such talent should not be hurried into making premature final decisions merely for the sake of "getting the 'people' on standard."

The author is indebted to Mr. Carl T. Dunn, Vice President of Albert Ramond and Associates, for his criticism of parts of the manuscript.

[4] The reason it would be a practical impossibility to have the shop average come out to the industrial engineer's 100 per cent point is because of the tolerances he is operating in. If his standards are set within the plus or minus ten per cent tolerance limits, pressure will be exerted to loosen up the ones on the tight side and the union contract will prevent the company's doing anything about the ones on the loose side. It would be a fair and practical working rule for both management and the union to have an understanding that for every standard the company changed in the union's favor the union, in turn, would allow the company to tighten up a loose standard. Even this quid pro quo has certain objections especially from the union point of view.

SOCIETY NEWS

Speaker's Table at S.A.M. Boston Chapter December 1 meeting.
Left to Right—Front Row: E. C. Johnson, President of the Boston Chamber of Commerce and H. A. Johnson Company; Fred V. Gardner, of Fred V. Gardner and Associates; C. C. Withers, General Manager of Towle Manufacturing Company; Robert Tonan, President of Peter Gray Corp. and Boston Chapter National Metal Trades Association. *Left to Right—Rear Row:* John G. Dorsey, Vice-President Boston Chapter; Willard Gardner, Chapter President; Earl Harner, Secretary; Arthur G. Chamberlain, Jr., Treasurer.

CHICAGO CHAPTER has lined up the following speakers for their Annual Management Personnel Conference, February 2, 3 and 4: *Ernest Reed*, Director of Education and Training, International Harvester Company; *Harold Smiddy*, Vice-President, General Electric Co.; *George Smith*, President, Johnson & Johnson; *William A. Patterson*, President, United Air Lines; and several others. *Dr. Joseph W. Towle* of Northwestern University School of Commerce is serving as general chairman of the conference.

DR. BILLY GOETZ, Vice-President of Research, Dayton Chapter, is receiving enthusiastic congratulations on the success of his new book "Management Planning and Control" just published by McGraw-Hill. ADVANCED MANAGEMENT published part of the book when it was first delivered as a paper, "Tomorrow's Cost System," at the April, 1947, meeting of the Chicago Chapter.

DR. RAYMOND A. KATZELL President of the Central New York Chapter and member of the Committee on Human Relations, was promoted to the post of Director of the Psychological Services Center at Syracuse University. He will continue to head the Center's Industrial Service.

MONTREAL CHAPTER is completing plans for an Industrial Engineering Conference on Friday, March 24th, at the Mount Royal Hotel in Montreal. The general theme is to be "Profits, Security and Industrial Engineer." *Phil Carrol, Keith Loudoun, Allan H. Mogenson* and *Jack Schwab* will be among the panel speakers with *Ralph Presgrave* as General Chairman. Conference Co-ordinator in charge of registration is *J. A. McLean, Dominion Rubber Co., Ltd.*, 1806 Notre Dame St., E. Montreal.

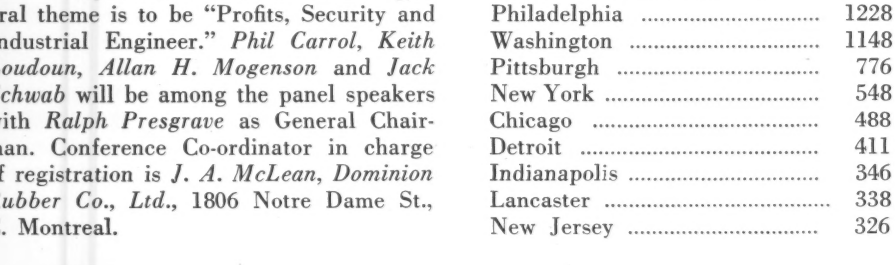
HAROLD B. MAYNARD founder and president of the Methods Engineering Council, Pittsburgh, and a past-president of the Society for the Advancement of Management, was awarded the Melville Prize Medal for "the best original paper or thesis on any mechanical engineering subject presented before the ASME the previous year." Mr. Maynard was given the award for his paper, "The Role of Scientific Management in World Recovery." The medal was presented at the American Society of Mechanical Engineers 70th Annual Meeting.

BOSTON CHAPTER'S December 1st meeting was highlighted by Fred V. Gardner's talk on "The Function of Break-even Points in Industry." Five groups from this chapter, each with more than 15 members, has embarked on a series of round-table discussions based on the Harvard "case studies." Results are reported to Mr. Carl Wilson who is in charge of the round-table committee.

WORCESTER CHAPTER president, *Andrew B. Holstrom*—Vice-President of the Norton Company—has been elected Mayor of that city.

Emerson Trophy Standings
Chapter Performance Award Plan
As of November 30, 1949

CHAPTER	TOTAL POINTS
Cleveland	1450
Philadelphia	1228
Washington	1148
Pittsburgh	776
New York	548
Chicago	488
Detroit	411
Indianapolis	346
Lancaster	338
New Jersey	326



Indiana Chapter of S.A.M. visits U. S. Naval Ordnance Plant, Indianapolis.

Labor Roundup

By Paul A. King

Assistant to the Director of Personnel Administration of the Bigelow-Sanford Carpet Company; Member of the New York Bar

A Merrier Xmas Was Had

As the result of a unique labor settlement, workers of the Unit Crane and Shovel Corporation of Milwaukee had a merrier Christmas than expected.

Faced with a decreased volume of business a month or so before Christmas, the company was forced to drop from a 40-hour week to a 32-hour week.

It wasn't long before the President of the Local (United Steelworkers, CIO) reminded management that because of the short week and the day rate system the Company wasn't getting an honest count. He claimed, "You just couldn't expect workers to work hard on a 32-hour basis when they realized that it would merely mean perpetuation of the reduced work week or an even shorter one."

The Company and Union agreed to this solution: If the workers consented to putting in an honest day's work as long as there was work to do, the Company would guarantee a 40-hour week at least until the first of the year. If the Company ran out of work, it would retain the privilege of even putting the men to work sweeping out the plant.

How has this arrangement worked out? If you're curious drop a line to reader George W. Mace of the Company who told us about the settlement.

Ed. Note: This is your column. Just as George Mace did, use it as a means of exchanging labor relations information with other readers.

Too Hot to Work?

How hot must it be to justify workers' walking off the job in violation of a no-strike, no-work stoppage clause? Right now, with snow on the ground, it's no problem. But each summer it becomes a hot issue. Here's how an arbitrator solved it (put the item in your follow-up file for June).

Some of the employees of a New England Textile Company refused to work one very hot July day. Others braved the excessive heat and poor ventilation of the workroom without any ill effects. Those employees who refused to work were fired.

Arbitrator Maxwell Copelof who heard all the facts ruled that there was a concerted action by those who refused to work that was in violation of the spirit and letter of the contract. The non-workers, he ruled, should be disciplined by a loss of earnings — but not by discharge. The union steward, however, who apparently urged the employees to stay out could be fired. (*Paramount Printing Award*, 13 *LA* 143.)

Who's A Boss?

Assume that one of your employees operates a machine 4 days a week. On the 5th day, he acts as a supervisor. He doesn't touch the machine. Is he a boss or worker?

Three of the five members of the National Labor Relations Board ruled that such employees are supervisors and as such must be excluded from a rank and file bargaining unit. (*In re Texas Company*, 85 *NLRB No.* 206, 24 *LRRM* 1540)

They felt that:

> "During the days when these . . . individuals occupy (supervisory) positions, they exercise the privileges and responsibilities of supervisors. Because they regularly serve as supervisors for fixed and substantial periods during the course of their weekly employment, we believe that their interests are closely tied with those of management and conclude that they were ineligible to vote in the election."

Two dissenting Board members favored a previous ruling of the Board which was overruled by the present majority. The overruled decision said that "interest follows work." A worker who spent 50% or more of his time in non-supervisory activities was a rank and filer. (*Magnolia Petroleum* 79 *NLRB, No.* 126, 22 *LRRM* 1469.)

More recently the United States Supreme Court left undisturbed a previous decision of the Circuit Court that an employee is a supervisor if he has the authority to act as one.

He does not have to use his power. (Ohio Power Company.)

Aid for the Employee Magazine Editor

The National Association of Manufacturers has come to the aid of employee newspaper editors with a new "*Service for Employee Publications.*" The editor, pushed for bright ideas to improve his publication, can now turn to the new NAM service for practical techniques and features selected from the country's leading company papers. The selections are actual reproductions of articles and features that have gone over well. Richard R. Bennett, Public Relations Press Director of the NAM, 14 West 49th Street, New York 20, will be glad to tell you about the service.

Branch Employees Borrow Books by Mail

Westerns, humor, mysteries, biographies, whatever your taste in reading, if you are an employee of one of the branches of the Michigan Bell Telephone Company, you can borrow a book from the company library by mail. The library, operated by the personnel department, has developed effective forms for recording receipts and expenditures, reservations and the other bookkeeping required in a professional library.

Reemployment Rights for the Veteran Who Walks Off the Job

If a worker "walked off the job" without telling his boss why and later on he entered military service, is he entitled to the reemployment rights provided by law?

We are told by the Bureau of Veterans' Reemployment Rights (U. S. Department of Labor) that the answer is Yes. The answer would still be Yes even if months lapsed between his quit and his entering service if his "purpose, objective, motive, and primary cause in leaving the employment was to enter military service." It is up to the employer to show that the employee had other impelling reasons for quitting.

Incidentally, the official opinions of the Bureau on the reemployment rights of veterans can be secured through the Bureau's "*Field Letter.*" The Letter also contains summaries and discussion of court decisions on the subject. To receive copies as issued, write to the Bureau of Veterans' Reemployment Rights, U. S. Department of Labor, Washington 25, D. C.

BLS Data for Collective Bargaining

A year or so ago the head of the Bureau of Labor Statistics complained that not enough business men were taking advantage of the information available from his Bureau.

The Bureau has a wealth of material that is helpful—particularly in collective bargaining negotiations. Keep posted on BLS bulletins, releases, articles, specimen contract clauses, statistics and forthcoming publications by asking the Bureau to